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A M E R I C A N
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N O N P R O G R E D I E S T R E G R E D I .

VOLUME IX.
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EDITED BY
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N E W Y O R K .
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INDEX TO

THE AMERICAN MEDICAL MONTHLY,

VOL. IX.

Academy of Medicine.....	133, 223, 307, 310, 379
Aconite and Quinine in Purulent Infection.....	352
Alum Glysters for Dysentery.....	394
American Cyclopædia—Review of	366
American Medical Association	436
Animal Charcoal an Antidote for Cantharides.....	435
Aneurism Cured by Digital Compression	29
Aphorisms on Diseases of the Eye	393
Apoplexy of the Cerebellum, Case of.....	1
Arthritis—Lecture on.....	376
Asthma—Iodide of Potassium in	80
Barker (Dr. B. F.) on Occlusion of Os Uteri and Vaginal Hys- terotomy.....	117
Barker (Dr. B. F.) Remarks on Dysmenorrhœa	380
Barker (Dr. B. F.) Remarks on Menorrhagia.....	308
Barker (Dr. B. F.) Tr. Benzoin for Epistaxis.....	124
Beau (M.) Remarks on Puerperal Fever	423
Belladonna for Incontinence of Urine.	395
Bennett (Prof. J. H.) on Catheterism of Air-Passages.....	68
Bennett (Dr. J. Henry) on Hæmorrhage in Early Pregnancy...	222
Benzoin, Tincture of, for Epistaxis.....	124
Blondet (E.) on Fibrinous Concretions of the Heart	7
Blood-Spots—Microscopical Appearance of	347
Braithwaite's Retrospect—Notice of.....	219
Bronchitis, Chronic—Tannin in.....	80
Brown-Séquard's Physiological Researches.....	258, 353, 412
Brown-Séquard's Researches on Epilepsy—Review of	38
Budd (Dr. C. A.) Case of Large Human Fœtus.....	192
Buist (Dr. J. R.) Report of a case of Occlusion of Os Uteri..	117
Cantharides—Charcoal an Antidote for.....	435
Charcoal, Animal—An Antidote for Cantharides.....	435
Childs (Dr. Timothy) Case of Apoplexy of the Cerebellum	1

Chloroform in Intermittent Fever	80
Circumcision, Jewish.....	272
Clark (Dr. Alonzo) on Puerperal Fever	133
Clinical Records.....	151, 227
Cod-Liver Oil—Formulæ for the Administration of.....	350
Collodion for Flat Nipples.....	394
Comminuted Fracture and Laceration of Fore-arm	59
Conjugal Onanism.....	67
Cumming (Dr. W. H.) Substitute for Human Milk	193
Calculi, Formation of Urinary.....	241
Campbell's (Dr. H. F.) Essay—Notice of.....	302
Campbell (Dr. J. J.)—Report of case of Cancer of the Œsophagus.....	278
Campbell (Dr. J. J.)—Report of case of Tetanus	227
Cancer, Escharotic Treatment of.....	55
Cancer of the Œsophagus, Case of.....	278
Cancer of the Tongue, Disappearance of	60
Cancer of the Uterus, accompanied by unusual Symptoms.....	121
Carate, a Disease of the Skin	264
Case of Castration for Tubercular Testicle	279
Cases of Falling of the Rectum	14
Case of Fracture of Vertebrae.....	151
Case of Injury of Spinal Cord—Recovery.....	152
Case of Injury of Spine—Death.....	153
Case of Injury of Spine—Recovery	152
Case of Malarious Typhoid	226
Case of Strangulated Femoral Hernia.....	229
Case of Tetanus, Report of	227
Castration for Tubercular Disease of Testicle	279
Catheterism of the Air-Passages.....	67, 68
Cauterization of the Anus for Falling of the Rectum.....	14
Davis (Dr. H. G.) on Special Exercises in Diseases of the Lungs.....	161
Delore (X.) and Berne (A.) on Influence of Recent Discoveries on the Pathology and Therapeutics of the Digestive Organs.....	126
Development of the Thorax, as a Prophylactic and Remedial Measure in Phthisis and other Chronic Affections of the Lungs.....	161
Depaul (Dr.)—Remarks on Puerperal Fever.....	342
Diagnosis—Review of Dr. Barclay's Manual on Medical.....	280
Discussion on Prolapse of the Funis.....	379
Discussion on Puerperal Fever before the Paris Academy.....	338, 423
Discussion on Puerperal Fever, before N. Y. Academy.....	133
Dr. Simple's Journal	384

Dunglison's (Dr. B.) Medical Lexicon—Notice of	37
Dysentery, Alum Glysters for	394
Dysmenorrhœa, Remarks on.....	380
Dyspepsia, Lecture on	370
Editorial and Miscellaneous.....	65, 159, 223, 310, 383
Embalming by the American Indians	275
Epistaxis, Tinct. of Benzoin for.....	124
Escharotic Treatment of Cancer.....	55
Essay on the Secretory and Excito-Secretory System of Nerves..	302
Eye, Aphorisms on Diseases of.....	393
Exercises, Special, in Diseases of the Lungs	161
Farrington (Dr. J. M.) Report of case of Castration for Tubercu- lar Disease of Testicle.....	279
Farrington (Dr. J. M.) Report of case of Gun-Shot Wound....	361
Farrington (Dr. J. M.) Report of case of Strangulated Hernia..	229
Farrington (Dr. J. M.) Clinical Records	151
Fever, Intermittent, Chloroform in.....	80
Fever, Yellow, at Port au Prince	321
Fibrinous Concretions of the Heart.....	7
Flat Nipples, Collodion for.....	394
Floyd's (Dr. E. A.) Lecture on Arthritis.....	376
Fluid Extracts, Report on	179
Fœtus, case of large Human.....	192
Formation of Urinary Calculi	241
Frick (Dr. Chas.,) on the Formation of Urinary Calculi	241
Gardner (Dr. A. K.) case of Cancer of Uterus	121
Green (Dr. Horace) Selections from Favorite Prescriptions..	10, 173
Griscom (Dr. J. H.) History of Yellow Fever at New York....	81
Guerard (Dr.) Remarks on Puerperal Fever.....	338
Gun-Shot Wound, Case of.....	361
Gun-Shot Wounds of Military Suicides.....	30
Harris (Dr. E.) Letter on Pestilential Diseases—Notice of....	369
Hæmorrhage in Early Pregnancy	222
Heart, Fibrinous Concretions of	7
Hernia, case of Strangulated Femoral Hernia.....	220
Hervez de Chegoin, (M.) Remarks on Puerperal Fever.....	429
History of the Visitations of Yellow Fever at New York.....	81
Hospital Reports.....	63, 149, 227
Hydatids in the Tibia.....	62
Hypophosphites and Tuberculosis	333
Incontinence of Urine, Belladonna for	395

Infection, Purulent, Aconite and Quinine in.....	352
Influence of Recent Physiological and Chemical Discoveries on the Pathology and Therapeutics of the Digestive Organs..	126
In-growing Nail, Ointment of Perchloride of Iron for	352
Iodide of Potassium in Asthma.....	80
Iris adhering to an Opaque Capsule and closure of Pupil.....	62
Jewish Circumcision before a Medical Tribunal	272
Kidneys Movable.....	398
Laceration and Comminuted Fracture of Fore-arm.....	59
Laryngismus Treated by the Ready Method.....	331
Lecture on Dyspepsia.....	370
Lecture on the Diagnosis of Idiopathic from Rheumatic Arthritis.	376
Letter from Am. Med. Soc. in Paris to Medical Journals in U.S.	158
Letter from Dr. Eve to Editors of the Monthly	154
Letter of Editors of Monthly to Dr. Paul F. Eve.....	156
Letter on Pestilential Diseases, Notice of.....	369
Livingstone's (Dr.) Travels in Africa—Items from.....	72
Lungs, Special Exercises in Diseases of.....	161
Matches of Phosphorus poisonous.....	432
Materia Medica and Therapeutics—Review of Mitchells'.....	33
Materia Medica and Therapeutics—Notice of Tully's.....	218
McNulty's (Dr.J) Eight cases of recovery from large doses of opium.	186
Medical Lexicon—Notice of	37
Menorrhagia—Case of	307
Menorrhagia—Obstinate.	52
Mercury—Oleo-Stearate of.....	349
Milk—Substitute for Human.....	193
Miller's (Dr. Henry) Principles and Practice of Obstetrics..	363
Mitchell's (Dr. T. D.) Materia Medica and Therapeutics.....	33
Notice of Braithwaite's Retrospect.....	219
Notice of Dr. Campbell's Essay on the Secretary and Excito-Sec- retory System of Nerves.....	302
Notice of a constant Microscopical Characteristic in Blood-Spots.	347
Notice of Dunglison's Medical Lexicon.....	37
Notes of eight cases of recovery from large doses of Opium....	186
Notice of Rankin's Abstract.....	219
Notice of Tully's Materia Medica.....	218
Obstetric Section of Academy of Medicine.....	307, 379
Occlusion of Os Uteri—Case of.....	117
Oesophagus—Cancer of	278
Oleo—Stearate of Mercury.....	349

Opium—Recovery from large doses of	186
Ozone, or Researches into the nature of Electrized Oxygen	200
Paronychia—Nitrate of Silver in	351
Paralysie Générale	401
Peaslee (Dr. E. R.) on Brown-Séquard's Physiological Re- searches	258, 353, 412
Perchloride of Iron Ointment for In-growing Nail	352
Phosphorus Matches poisonous	432
Physical Education—Importance of	390
Piorry, (M.) Remarks on Puerperal Fever	426
Pneumonia—Veratrum Viride in	409
Puerperal Fever—Discussion on	133
Puerperal Fever—Veratrum Viride in	3
Pupil closed from adhesion of Iris to an Opaque Capsule	62
Popliteal Aneurism cured by Digital Compression	29
Pregnancy—Hæmorrhage in Early	222
Prescriptions—Selections from Favorite	10, 173
Proceedings of the Am. Pharmaceutical Association—Notice of	305
Puerperal Fever before the Paris Academy	338, 423
Purulent Infection—Quinine and Aconite in	352
Rankins' Abstract, Notice of	219
Ranney, (Dr. M. H.) on Paralysie Générale	401
Ready Method in the Treatment of Laryngismus	331
Rectum, Cases of Falling of	14
Remarks on Treatment of Acute Internal Inflammations	219
Report of a Case of Cancer of the Œsophagus	278
Report of Case of Castration for Tubercular Disease of Testicle	279
Report of a Case of Gun-shot Wound	361
Report of a Case of Tetanus	227
Report on Fluid Extracts	179
Report of the Trial of Miss Smith, Notice of	306
Review of Barclay's Manual of Medical Diagnosis	280
Review of Brown-Séquard's Researches on Epilepsy	38
Review of Delore and Berne on Influence of Recent Discoveries on Pathology and Therapeutics of the Digestive Organs ...	126
Review of Miller's Principles and Practice of Obstetrics	363
Review of Mitchell's Materia Medica and Therapeutics	33
Review of the new American Cyclopædia	366
Review of Scoutetten on Ozone	200
Review of the Transactions of the Am. Med. Association	216
Researches on Epilepsy—Review of Brown-Séquard's	38

Reynoso (M. Alvaro) on Embalming by American Indians.....	275
Rogers (Dr. W. C.) Laryngismus Treated by the Ready Method.....	331
Rogers, (Dr. W. C.) on Veratrum Viride in Pneumonia.....	409
Rotton (Dr. Sam'l) Report on Fluid Extracts	179
Rowell (Dr. J.) Case of Malarious Typhoid.....	226
Salivation of Pregnancy, Quinine in.....	80
Scoutetten on Ozone, Review of	200
Selections from Favorite Prescriptions.....	10, 173
Spinal Cord, Case of Injury of.....	152
Spine, Case of Injury of, Death.....	153
Spine, Case of Injury of, Recovery.....	152
Steiner (Dr. L. H.) on Tuberculosis and the Hypophosphites....	333
Suicides, Gun-shot Wounds of Military.....	30
Syphilization in India.....	100
Syphilization in Norway.....	40
Tannin in Chronic Bronchitis.....	80
Tetanus, Case of	227
Todd (Dr. R. B.) on Treatment of Acute Internal Inflammations.....	219
Trousseau's Lecture on Dyspepsia.....	370
Trial of Miss M. Smith, Notice of Report of.....	306
Treatment of Acute Internal Inflammations.....	219
Transactions of the American Medical Association, Review of...	216
Tuberculosis and the Medicinal Hypophosphites	333
Tully's Materia Medica and Therapeutics, Notice of.....	218
Typhoid, Case of Malarious.....	226
Underhill (Dr.) Case of Menorrhagia.....	307
Urinary Calculi, Formation of.....	241
Uterus, Cancer of, accompanied by unusual Symptoms.....	121
Uteri, Occlusion of Os.....	117
Vaginal Hysterotomy	117
Van Arcken (Dr. G.) on Carate	264
Van Arcken (Dr. G.) on Yellow Fever at Port au Prince	322
Veratrum Viride in Pneumonia.....	409
Vedder (Dr. Joseph H.) on Veratrum Viride in Puerperal Fever ..	3
Veillard (Dr. L.) on Falling of the Rectum.....	14
Vertebræ, Case of Fracture of	151
Veratrum Viride in Puerperal Fever	3
Yellow Fever at New York, History of the Visitations of.....	81
Yellow Fever at Port au Prince	321

THE AMERICAN MEDICAL MONTHLY.

JANUARY, 1858.

ESSAYS, MONOGRAPHS, AND CASES.

Case of Apoplexy of the Cerebellum. By TIMOTHY CHILDS, M.D.,
Prof. of Anatomy in the N. Y. Medical College, &c.

On the 26th of December, 1854, I saw for the first time Miss K—— D——, of Pittsfield, Mass., aged 19, and received the following history of her case. Some eighteen months ago Miss D. was employed in taking care of the baby of her married sister, during the absence of its mother, and finding that by *shaking her own head rapidly and violently*, the child was amused and quieted, she resorted to this expedient a great number of times. While thus engaged she felt suddenly faint and sick, vomited, and was obliged to take her bed, where she remained some days. She then attempted to resume her usual avocation, but found on attempting to walk that she *staggered* as though intoxicated. Her mortification at this circumstance induced her to keep very much within doors. Soon after this period, she left her home on a visit to relatives in Canada, whence she has but recently returned. While in Canada she consulted two physicians, but received no considerable relief from their prescriptions; she thinks, however, that the *seton*, advised by one of these gentlemen, and worn for some months, “did some good.” At this date she staggers badly, cannot walk without assistance, and is growing rapidly blind; the eyes have an amaurotic stare, pupils large, and respond but

sluggishly to the stimulus of even a very bright light; constant dull pain, referred to the region of the occiput; bowels excessively torpid; appetite capricious.

A seton was inserted as high in the nape of neck as possible, and a mild course of the protiodide of mercury pursued; at first with apparent benefit; vision was much improved. Soon, however, the disease progressed again; the patient became entirely blind, and late in January, 1855, she had her *first general convulsion*; on the evening of the 3d of February, a second, in which she died; the intellect unaffected; clear and strong throughout; no change in the manifestations of the sexual instinct.

Autopsy made the following morning, revealed an old hardened clot of blood of the size of a large walnut, in the centre of the cerebellum, just above the "iter a tertio ad ventriculum quartum." This hardened clot was bathed in nearly two ounces of yellow serum inclosed in a cyst. Other organs healthy.

The *blindness* was satisfactorily explained by the pressure upon the *Tubercula Quadrigemina* of the increasing cyst; the temporary improvement in the vision, by the partial absorption of its contents; the *refilling* of the cyst renewed the pressure on the *Tubercula Quadrigemina*, thus bringing back the blindness; the cyst still increasing compressed the *Medulla Oblongata*, causing the convulsions and the death. The persistent inability to *co-ordinate* the voluntary movements of the lower extremities, (and this of course is the point of interest in this case,) corroborate the views held by *Flourens*, of the grand function of the cerebellum, "Enfin dans le cervelet réside une propriété * * * qui consiste á *co-ordonner* les mouvements *voulus* par certaines parties du système nerveux *excités* par d'autres;" and again, "Et le cervelet le siège exclusif du principe, qui co-ordonne les mouvements de locomotion." The experiments of *Flourens* have always seemed to me satisfactory and decisive as to this function of the cerebellum. *Longet*, in the main, endorses his conclusion. The difficulty has been to make the *pathology* of the human cerebellum square with the results of *experiment* on the inferior animals; this is an interesting inquiry, which we have neither time nor space here to pursue. We venture, however, to record our humble subscription to the opinion held by that prince of reconcilers and generalizers, the philosophic and comprehensive *Carpenter*, that this discrepancy is rather apparent than real. In "nature's experiments," furnished us in the history and the pathological anatomy of the *fatal* cases of disease of the cerebellum, the lesion or its effects *are not limited to the cerebellum*,

(as they may be in carefully conducted experiments on animals,) but *involve other nervous centres in the neighborhood*; this fact is well illustrated by the case above detailed. The patient, by violent and prolonged shaking of the head, ruptures one or more blood vessels in the centre of the cerebellum, and a clot is there found. Here is a localized lesion, and its symptoms correspond perfectly with the results of experiment upon animals; the power of co-ordinating the movements of the lower extremities is lost; the patient, like the animal, *staggers*; by and by the irritation of a clot of blood, too large for absorption, develops a secreting cyst, which in its enlargement presses on an adjoining nervous centre—the Tubercula Quadrigemina; and then, and not till then, induces blindness. Still increasing, it presses on a neighboring and still more important nervous centre—the Medulla Oblongata; and then, and not till then, we have the convulsion and the death. So in softenings, cancers, exostoses, etc.

Read with this key, Andral's cases of cerebellic disease are not irreconcilable, nay, do not conflict with the physiological doctrine established by the accurate and beautiful experiments of Flourens, that the cerebellum has for its chief office the co-ordination of the movements of locomotion, the combining and harmonizing of them to a determinate end.

Indeed, in the only case of the ninety-three cited by Andral of disease *really* analogous to ours, it is said "*Avant d'en être frappé il avait gardé pendant quelque temps, une démarche chancelante.*"

Veratrum Viride in Puerperal Fever. BY JOSEPH H. VEDDER, M.D.,
late House Physician Accoucheur to the State's Hospital, Ward's Island.

Mrs. A. B., ætat 24, was delivered of her first child at 1½ A. M., November 20th, after a short labor of two hours' duration. I reached the house before the expulsion of the placenta. It came away entire. The hand was applied by the nurse over the uterus after the expulsion of the head, and was kept there until I applied the binder. An accident having recalled me to the lying-in room at 2¼ P. M., I found my patient moaning with paroxysmal pains situated principally in the left side; countenance anxious; pulse 100; thirst; extremities cold. Instantly removing the bandage, I found the uterus dilated to a considerable extent from internal hæmorrhage. Ergot in tincture was given, and after sitting two hours with the hand over the uterus, I

left her at 5½ A. M., free from pain, womb well contracted, pulse 88, and surface warm. She slept two hours in the morning, and at 12 M. I found her cheerful, pulse 88, and free from faintness. During the afternoon she complained of soreness in the left ovarian region, and frequently recurring pains kept her constantly awake.

Nov. 21st. At 2½ A. M., she awoke with thirst; a hot skin; heat and fulness about the head, and paroxysmal pain. Epistaxis at 5 A. M., and 6½ A. M. At 7 A. M., I found her restless, excited, face flushed; pulse 106, moderately full; tongue red and covered with a whitish flaky coat; lochia normal. The uterus I found again extending nearly to, and two and a half inches on either side of, the umbilicus. The hæmorrhage having ceased, I determined to defer the manual removal of the clots, in the hope that ergot might induce contraction. The binder was applied with a firm compress over the uterus; *Ol. Ricini* ℥ss. administered, and a teaspoonful of *Tr. Secale Cornut.* every hour. Two large evacuations followed the oil, and several small clots were expelled at the same time. 7½ P. M., pain continues; restless; surface moist; fulness about the head; pulse 106. *R. Elixir. Opii.* (McMunn's) gtt. lx.

Nov. 22. Did not rest well; pulse 100; free from pain; slight soreness on pressure in the left ovarian region; complains of sinking sensations. Uterus firmer, and more contracted. *Cont. Med.* every third hour; beef tea. 7 P. M.—Several clots expelled; pulse 110; lochia dark coffee-ground color, and offensive. *R. Elix. Opii.* gtt. lx.

Nov. 23. Slept better than previous night; pulse 106; faint at times; thirst. *R. Liq. Ammon. Acet.* ℥iv. *Cap. ℥ss.* every 3 hours. 7 P. M.—Pulse 115, small, hard; restless; head hot; *micturition*; slight *tympanitis*; lochia still offensive; uterus more contracted.

<i>R. Pulv. G. Opii.,</i>	-	-	-	gr. vi.
<i>Hyd. Sub. Mur.,</i>	-	-	-	gr. xii.
<i>Div. in pil,</i>	-	-	-	no. vi.

I directed one pill to be given every two hours when awake, and the vagina to be well syringed with warm water.

Nov. 24th. Slept well; large clot expelled; has taken two pills and considerable beef tea. Pulse 120, hard; tongue red; papillæ erect, covered irregularly with thin white patches; headache; uterus nearly natural in size; milk diminished. At 6 A. M., vomited half pint of "grass green" fluid; nausea constant. Dr. Allen, in consultation, agreed with me in the diagnosis of incipient metritis. *Cont. Med.* every two hours. 3 P. M.—Pulse 115; dozes constantly; large clot expelled; vomited a yellowish fluid. 7½ P. M.—Pulse 130.

Directed eight drops of Tr. Veratrum Viride to be given every two hours, and one pill every alternate hour, when awake.

Day.	Hour.	Pulse.	Drops.
Nov.			
24	7 P. M.	130	viii.
	9 P. M.	130	viii. 10 P. M. One pill given.
	11 P. M.	130	viii. 12 P. M. " "
25	1 A. M.		viii.
	3 A. M.		x.
	5 A. M.	105	viii. Slept well; pulse fuller; took more nourishment; nausea, flatulence; lochial discharge diminished.
	7 A. M.		x.
	9 A. M.	94	iv. 8 A. M. One pill given; rigor continued fifteen minutes, followed by more fever; head very hot.
	11 A. M.		iv.
	1 P. M.	94	iii. 12 M. One pill given.
	3 P. M.	94	iii. 4 P. M. Pill given.
	6 P. M.	84	Discontinue the drops, but continue pills if awake.
26	12 A. M.	105	x. Faint, sinking sensations since 4 P. M.; colicky pain in bowels; somewhat tender on pressure; lochial discharge light colored and free from fætor; to take opium in pill, half grain, every two hours.
	1 A. M.		vi.
	3 A. M.	95	vi.
	5 A. M.	75	To 6 A. M., took two grains of opium. At 4 A. M. severe spasmodic pain in lower part of bowels. Injection of warm water, followed by large, dark, thin evacuation.
	7 A. M.	130	x. Opium, gr. i.; moaning constantly; features pinched; pulse feeble, irregular; severe tenesmus; free from pain in bowels. Directed starch and laudanum injection.
	8½ A. M.	130	Tenesmus relieved.
	9 A. M.	130	x. Opium, gr. ½.
	10 A. M.	130	x. Opium, gr. ½; excessive thirst; very feeble.
	11 A. M.		x. 10½ A. M., seized with severe dysuria; 11 A.
	12 A. M.	130	x. M., opium, gr. ½; moaning feebly; pulse variable; extremities cold and blue; has suffered intensely since 10½ A. M.; warm applications to bowels, and administer one teaspoonful of the following mixture every hour: R. Tr. Camph., Tr. Opii., Spt. Eth. Nit. aa. 3jj.
26	2 P. M.	130	x. Opium, gr. ½. At 1 P. M., dysuria relieved.
	3 P. M.	120	viii. Sleeping; faint.
	4 P. M.		viii. Opium, gr. ½.
	5 P. M.	116	viii. Pulse stronger; thirst continues; wine whey to be given.
	6 P. M.		viii.

27	7 P. M.	105	v.	Opium, gr. $\frac{1}{2}$; expression less anxious; surface warmer; free from pain; dozing constantly.
	8 P. M.		v.	
	9 P. M.		v.	
	10 P. M.		v.	
	11 P. M.	94	iii.	Opium, gr. $\frac{1}{2}$; one large evacuation; thirst less; surface cool; forehead moist; wine whey to be given freely.
	1 A. M.	84		Opium, gr. $\frac{1}{2}$; more wakeful; hands cold and blue; feet warmer.
	3 A. M.		iii.	
	4 A. M.		iii.	Several small dark-colored stools.
	5 A. M.	100	vii.	Thirst; tenesmus; surface warmer; pulse variable.
	6 A. M.		viii.	To take a pill of tannin and opium, each one grain, every hour.
	7 A. M.		viii.	
	9 A. M.	105	viii.	Pill given at 7, 8, and 9 A. M. Bowels moved twice.
28	10 A. M.		v.	
	11 A. M.		v.	Pill given.
	12 A. M.	105	x.	Stools watery; lochial discharge watery; no tympanitis; tongue very red and excoriated at the edges.
	1 P. M.		x.	Pill given.
	2 P. M.		x.	
	3 P. M.	99	x.	Pill given at 3, 5, 7, and 9 P. M.
	4 P. M.		x.	At 10 P. M. vomited about half pint of fluid bitter to the taste; surface cold; a livid red spot on both cheeks, and extremity of nose; features contracted; eyes dull and heavy; pupil natural. Flatulence and pain in the bowels. Administer brandy freely, and apply mustard to extremities with friction.
	6 P. M.	90	x.	
	7 P. M.		vi.	
	8 P. M.		vi.	
	9 P. M.	84	vi.	
	12 A. M.	60		Very feeble; speaks faintly; tenesmus; no evacuation since 9 P. M.
29	1 A. M.	80		Sleeps, but not soundly.
	6 A. M.	84		Has taken brandy $\frac{3}{4}$ during night, but no beef tea. Four small watery stools. Pill taken at 12, 3, and 6 A. M.
	1 P. M.	90		
	2 P. M.	100	vi.	Lochial discharge reddish.
	3 P. M.	100	vi.	P. M., slept two hours. Bowels moved three times; natural color.
	6 P. M.	76	vi.	Face flushed; Pill taken at 9 A. M., 6 P. M. and 9 A. M.
	12 A. M.	84		
	8 A. M.	115	x.	Slept well; two evacuations.
	11 A. M.		x.	
	1 P. M.	111	viii.	
	3 P. M.	95	viii.	
	6 P. M.	84	viii.	Pulse fuller; expression more natural; free from pain and soreness; tongue still red and sore at edges; surface natural; secretion of milk increased; strength improving.
30	9 P. M.	84	viii.	
	12 A. M.	84	viii.	
	6 A. M.	84	viii.	

By the occasional use of *Veratrum Viride*, I kept the pulse at this point for a number of days, when I gradually withdrew it. Under a generous diet she convalesced rapidly, and at this time has regained her usual strength.

We have here a plain and well-marked case of puerperal fever in which the lesion is apparently confined to the uterus, and perhaps the left ovary. None of the characteristic symptoms of metritis are wanting. Carefully recorded experience at the Ward's Island Hospital, led to the conclusion that, however well the opium plan of treatment may be adapted to simple puerperal peritonitis, it is not equally efficacious in inflammation of the uterus or its appendages, except as an allayer of nervous irritation. In *Veratrum Viride* we have a controller of the circulating apparatus. In the words of Prof. Barker, "by it, the pulse can be brought under voluntary control." That such is the chief indication, every one who has treated the disease in its epidemic form, must be well aware. Indeed we have seen cases in which an accelerated pulse was the only symptom of the disease.

In the case recorded, ten grains of calomel in combination with opium, was given in the outset of the disease. The opium afterward exhibited, was given partially to subdue irritation, but chiefly to check the diarrhoea. We conclude that *Veratrum Viride* is cumulative; that if suddenly withdrawn, the pulse speedily regains its usual frequency; that long continued, it acts as an irritant to the mucous lining of the intestinal canal; and that, to be safely given, its effects should be closely watched. The physician should, for the time, act both as physician and nurse.

FLUSHING, L. I., Dec. 14th, 1857.

Fibrinous Concretions of the Heart. By E. BLONDET, Interne at the Hotel Dieu, Paris.

[From a valuable series of papers on this subject published in *l'Union Medicale*, during the months of September and October, 1857, the following conclusions are translated for the MONTHLY.—E. H. P.]

I repeat in a few words the principal propositions which I have endeavored to establish. In the first place, the dense, white, resisting fibrinous concretions, occupying the whole or almost the whole of the cavity of the ventricles and auricles, are not formed after death, as has been said, and are not the pure and simple result of the coagulation of the fibrine of the blood after its circulation has been interrupted. This is thus proved:

1st. The quantity of this fibrine is entirely out of proportion to the quantity of globules found in these cases, to such a degree that very frequently the globules are entirely wanting in these masses of coagulated fibrine, and that this fact can only be explained by the continuation of the contractions of the heart.

2d. If it were so—if, as has been maintained, the fibrinous coagulations presenting the characteristics which I have just enumerated, were the purely physical result of the less rapid coagulation of the blood after death, and of the easier precipitation of the globules to the depending parts, a similar effect ought to be produced in all cases, and we ought to meet with this kind of coagulations in all autopsies. It is not so, however. In more than half of the cases, we find clots composed only of blood, which very evidently have coagulated after death.

3d. Most authors, and in our day, all who are of authority in the science, agree in admitting that in certain cases there may be formed in the circulatory system, and especially in the heart, those fibrinous clots, whose presence has been considered as a proximate cause of death. These cases have not yet been well determined, far from it; and no attention has been given to them except in the absence of all anatomical lesion sufficient to account for a fatal termination, and in circumstances which have appeared to be exceptional. Yet the clot which they have there described, differs neither in volume, nor consistence, nor color, nor in any physical characteristic from those which I have dwelt upon, but to which they attach no importance, because there exist at the same time old and grave lesions to which it seems more rational to refer the death. But is it not apparent that such an exclusion must be entirely arbitrary, and that such a mode of reasoning is illogical? We must wholly deny their importance, or must grant it to them in all cases where their physical characteristics are the same; and I believe that there are peremptory reasons for giving to them this importance. The following are some of these reasons: The existence of these coagula during life has been experimentally demonstrated, and *de visu* in animals which have been placed in such conditions as ought to produce them, and their conditions are of precisely the same class as those which I have endeavored to illustrate. This is a first proof which does not allow of much answer.

In man, it is not possible to prove it so directly, yet the presumption acquires a certain degree of evidence from the circumstances which accompany them, and from the symptoms by which they are revealed. The obstacles which they offer to the circulation, the general troubles

which result from them, the local signs by which they are accompanied, testify almost as evidently as immediately, that their formation is prior to death.

I have said, in the second place, that the causes which might produce such coagula were numerous and varied, but that two of them were of great importance—the phlegmasiæ, which throw into the blood an excess of fibrin, long since pointed out and perfectly established, which I have only had to allude to in passing—and imperfection of hæmotosis, another cause, the action of which had been already noted by some observers, but which had not been explicitly pointed out by any one; whether it acts like the preceding by changing the chemical constitution of the blood, or in consequence of the increased difficulty that blood which is not properly hæmatosed meets with in passing through the lungs, or for any other reason of which we are still ignorant.

At present, it is true we cannot point out any pathognomonic signs of the presence of these concretions, and in view of the great variability in their size and even of their situation, I do not believe we can soon point out any. But we know that such signs are a rare exception in semeiology, yet this is no reason for declining to make a diagnosis. It is almost always possible. I have enumerated the greater part of the symptoms which permit us to recognize them, and I believe it to be especially necessary to take into account the two principal conditions in which these concretions are most frequently met with. Who, in fact, will maintain that the study of causes may not be of prime importance, not only for the treatment but also for the diagnosis of diseases?

These concretions are the immediate cause of death in most organic or dynamic lesions of the respiratory apparatus, provided, that they are sufficiently intense and sufficiently prolonged. They are especially the anatomical characteristic of syncope. There are two kinds of syncope—primitive syncope, of which the point of departure is in the nervous system—and consecutive syncope, in which the nervous system falls into collapse because it does not receive the influence of its natural excitant. It is also the only lesion which is found in the autopsy of certain emphysematous old persons who sometimes die very rapidly, and in a state of health apparently satisfactory, whether it be that death is caused by the increase of the clot, or that it happens all at once in consequence of some displacement of it, in which case it would come into the list of sudden deaths.

Finally, the *embole* which has been attributed to the concretions

of endo-carditis, is perfectly admissible for the fibrinous concretions. It may produce local gangrenes, not that the portion detached from the heart completely closes the calibre of the vessels, but because it excites around it a process of coagulation which completes the obstruction. This is a cause of senile gangrene, I do not dare to say frequently, because I have observed it only once; but it appears to me to be at least as plausible as that pretended arteritis, of which everybody speaks, and which so few persons have seen.

Selections from Favorite Prescriptions of Living American Practitioners. By HORACE GREEN, M.D., &c.

(CONTINUED.)

Diaphoretics.

Those medicinal agents which promote or increase the insensible transpiration are called *diaphoretics*.

The term *sudorifics* is applied to the same remedies when they produce free perspiration or sweating. Diaphoretics, which operate by promoting diminished, or re-establishing suppressed perspiration, are important agents in the treatment of many forms of disease. They are indicated in some varieties of febrile disease; in chronic cutaneous inflammations, in anasarca, pulmonary catarrh, and in rheumatic and gouty affections.

In common colds, and in pulmonary catarrhs, we have long employed the following mixture with great advantage:

R.—Liquor ammoniæ acetatis, ℥ij.
 Vini antimonii,
 Tinct. opii camph. aa. ℥ss.
 Syrupi tolutan, ℥j.

Misce.—Fiat mistura sumat. cochl. parv. bis terve in die.

After the exhibition of a cathartic in a severe cold, or in influenza, the above diaphoretic mixture, administered in drachm doses every four or six hours, we have found to be a most valuable remedy.

R.—Liquor ammon. acetatis, ℥ij.
 Misturæ camphoræ, ℥ijss.
 Vini ipecacuanhæ, ℥ss.
 Syrupi tolutan, ℥ij.

M.—Fiat mistura cujus exhibe cochl. mag. sextis horis vel sæpius.

In the commencement of fevers, and other inflammatory affections, the above mixture is a cooling and highly useful diaphoretic.

As a refrigerant and excellent diaphoretic in pneumonia, and in the commencement of febrile diseases, the following is employed:

R.—Vini antimonii,	℥ss.
Potass. nitratis,	℥ij.
Liquor ammon. acetatis,	℥iiss.
Syrupi tolutan,	℥j.
Aquæ puræ.	℥iv.

M.—Fiat mistura sumat. cochl. mod. tertiâ vel quartâ quâque horâ.

In the commencement of fevers or other inflammatory diseases, when it is desirable to obtain a purgative and diaphoretic effect, the subjoined mixture may be advantageously employed:

R.—Magnes. sulph.	℥j.
Ant. et potass. tart.	gr. ss.
Syrupi simp.	℥j.
Aquæ cinnam.	℥ij.
Aquæ puræ.	℥v.

M.—Fiat mistura, sumat. cochleare unum ampl. omni horâ.

As a diaphoretic and alterative in rheumatic and other inflammatory affections, the following pills are useful:

R.—Pulvis antimonialis,	℥ss.
Hydrarg. chlo. mite,	℥j.
Opii pulv.	gr. x.
Conserv. rosæ.	q. s.

Divide in pilulas xx. sumat. unam quartis horis.

In acute rheumatism, when an anodyne diaphoretic is indicated, we may employ the following with great advantage:

R.—Potassæ nitratis,	℥ij.
Opii pulv.	gr. xii.
Ipecacuanhæ pulv.	gr. xvij.

M.—Fiant pulv. xii. cujus sumat. unum horâ somni.

When a still more powerful diaphoretic is required, as in the treatment of dropsical affections, and in the early stage of acute bronchitis, we may have recourse to the following pill:

R.—Pulvis ipecac. comp.	℥j.
Ant. et potass. tart.	gr. iij.
Hydrarg. chlorid mite,	gr. xii.
Mucil. acaciæ,	q. s.

Misce.—Fiant pil. xii. cujus sumantur ij. mane nocteque.

If, after taking the above pills, the patient shall drink plentifully of warm fluids, a free perspiration will be likely to ensue.

In the commencement of fevers, and in catarrhal affections, attended with increased vascular action, the following is a useful diaphoretic:

R.—Liquor ammon. acetatis, ℥ij.
 Spirit æther nitrici,
 Vini antimonii, aa. ℥ss.
 Syrupi acaciæ, ℥j.

Misce.—Fiat mistura. Cap. cochl. parv. quâque horâ.

Vel:

R.—Ant. et potass. tart. gr. ijss.
 Aquæ cinnam. ℥ij.
 Syrupi simp. ℥ss.
 Aquæ puræ, ℥iiss.

M.—Fiat mist. cujus sumat. cochl. parv. secundâ vel tertiâ horâ.

Diuretics.

Diuretics are a class of remedies which have the property of augmenting the secretion of urine.

Some diuretic agents, being absorbed by the mucous or cutaneous surfaces, are received into the circulation, and act by directly stimulating the kidneys to secrete an increased quantity of urine. Other remedies of this class, by making a general impression on the absorbent system, act indirectly or secondarily, exercising in this way an influence on the amount of urine secreted.

It is important to recollect that the diuretic treatment is ordinarily merely secondary; and is not generally indicated until other remedies, which have reference to the primary cause of the disease, have been employed. "Like all medicines endowed with special properties, diuretics require two conditions to produce their effects. The first is, that the organ into which they are introduced should be exempt from inflammation; and secondly, that the organ on which they are intended to act, after being absorbed, should be a healthy one. Let the stomach be inflamed, and diuretics will increase the inflammation without producing the diuretic effect; or let the kidney be inflamed, and we shall only inflame it still more without increasing its secretion." *

If administered on an empty stomach, and followed by gentle exercise in the open air, or if the surface of the body be kept cool, diluent drinks taken freely, the operation of diuretics will be greatly promoted.

R.—Infus. juniperi, ℥vss.
 Spirit æther nitrici,
 Tinct. cinch. co. aa. ℥j.
 Tinct. cardamon, ℥ss.

Misce.—Fiat mistura; capiat cochl. mag. ter quarterve horis.

The above diuretic mixture has been found very beneficial in anasarca attended with much debility.

* Manual of Therapeutics, p. 301.

When it is desirable to promote free diuresis, in cases of general effusion into the whole cellular tissue, the subjoined mixture can be relied upon as a most useful diuretic:

R.—Infusi. digitalis, ℥vi.
Hydrarg. chlo. corrosiv. gr. ij.
Tinct. cantharid. f. ℥ij.
Aquæ menth. pip. ℥ij.

M.—Fiat mistura; sumat. cochl. mag. bis terve in die.

In hydrothorax and other forms of dropsical effusions, where a tonic is indicated, the following diuretic combination has been much recommended:

R.—Misturæ camphoræ, ℥viiss.
Spir. æther. nitric. ℥j.
Tinct. digitalis, ℥ss.
Tinct. opii, f. ℥ij.
Tinct. columb. ℥j.

Misce.—Fiat mistura; sumat. cochl. mag. bis quotidie.

Should a still more powerful diuretic be required, the subjoined may be substituted:

R.—Tinct. colchici. ℥ss.
Infus. juniperi, ℥vi.
Tinct. aurant comp. ℥j.
Potassæ carb. ℥ij.
Potassæ nitrat. ℥j.

M.—Fiat mist. capiat cochl. larga i. vel ij. ter quaterve in die.

In the treatment of the different forms of anasarca, but particularly in that which arises from diseased heart, we have employed for many years, and frequently with great advantage, the following diuretic combination:

R.—Vini colchici, f. ℥ij.
Tinct. digitalis, f. ℥vi.
Potass. iodid. ℥iiss.
Syr. sarsæ. comp. ℥ij.
Aquæ puræ, ℥iij.

Misce.—Fiat mistura; cujus sumat. cochl. parv. ter quaterve in die.

By some practitioners elaterium is esteemed a most valuable diuretic, especially in anasarca consequent on cardiac disease.

R.—Elaterii, gr. v.
Digitalis pulv. gr. xv.
Extracti gentianæ, ʒj.

M.—Fiat massa et div. in pilulas xx. quarum capiat unam mane nocteque.

R.—Aquæ fœniculi dulcis, ℥vi.
Tinct. cantharid. f. ℥ij.
Spir. æther nitrici,
Syrupi cort. aurant. aa. ℥j.

Misce.—Fiat mistura; sumat. cochl. i. ampl. pro re nâta.

The above mixture is a very pleasant, and quite an active diuretic.

In some cases of anasarca, where the disease is attended with, or proceeds from debility, the following tonic and diuretic may be exhibited frequently with great advantage:

R.—Tinct. cinch. comp. ℥iij.
 Tinct. cardamon comp. ℥ij.
 Tinct. cantharid. f.℥iij.
 Syr. acaciæ. ℥j.

Misce.—Fiat mistura; sumat. cochlearia duo parv. ter die.

With some practitioners, the subjoined stimulant diuretic is a favorite remedy in general anasarca attended with debility:

R.—Juniperi fructi. ℥ij.
 Potass nitrat. ℥ss.
 Vini albi. Oij.

Macera per horas duodecim; sumat. cochl. duo ampl. bis terve in die.

Cases of Falling of the Rectum—Cauterization of the margin of the Anus by the method of M. Guersant—Cure. By Dr. L. VEILLARD.

[Translated for the MONTHLY, from *l'Union Medicale*, of November, 1857, by E. H. P.]

Cauterization of the anus in cases of falling of the rectum, is an effective mode of treatment, exempt from difficulties and dangers; and although its happy effects have already been shown in several publications, we think it wise to report here the remarkable results obtained by it at the Children's Hospital. For ten years past, M. Guersant has there performed this operation about twelve times a year, and has also performed it in his city practice. This judicious observer has, then, such an experience of facts that his opinion on this matter ought to have great authority, and we say at once, that he places in the first rank the cauterization of the anus as a cure of prolapsus of the rectum.

In view of the success of M. Guersant, of which we have many times been a witness, a success almost constant in the absence of every kind of accident, we could wish to see this operation enjoy the fame which it deserves. But it is far from doing so, and we ought not to be astonished at it when Dupuytren, himself, dreaded for his patients the pain which it produced, and the grievous inflammation of the intestine and of the neck of the bladder, which it might cause.

Let us say at first what is to be understood by falling of the rectum. It is an accident which must not be confounded with procidentia by intussusception of a portion, more or less high up, more or less exten-

sive, of the intestine through the anus. The former of these affections is confined usually to procidentia of the mucous coat, sometimes to procidentia of all the coats of the rectum, as Blandin has proved anatomically, and we believe we may add to this the procidentia of the anal pouch, of which M. Ph. Boyer gives an interesting case in his notes;* the other depends on a true intestinal invagination.

In both these cases there is tumor projecting from the anal sphincter. In the first, this tumor is continuous with the margin of the anus, so that a probe cannot be made to pass between it and the intestine. In the second, it passes through the anus without adhering to it, so that a probe can be carried up on its sides to a greater or less distance, in the rectum.

Where there is simply falling of the rectum, it is frequently very difficult to ascertain whether the tumor is formed by the mucous coat above, or by the whole thickness of the intestine. This distinction is certainly founded on pathological anatomy, but at the bedside of the patient is it possible to distinguish certainly one change from the other? Authors advise us to examine the organs in relation with the intestine, and which are too firmly united to it not to be dragged with it when it is displaced in its totality. In woman, for example, when the vagina and the uterus are in their natural position the tumor ought to consist only of the mucous membrane, which becomes relaxed, leaves the other intestinal tunics and protrudes externally, folding upon itself. This is what is very generally found in children.

However, the treatment by the actual cautery is applicable to both kinds of falling of the rectum.

The tumor may be reducible or irreducible; may remain till the next stool, or return immediately after the reduction. This distinction is also of importance in the treatment.

It is not improper here to glance at the causes and the progress of this affection, in order that we may arrive at correct therapeutic indications, and be able properly to appreciate the effects of treatment. The causes of falling of the rectum are predisposing and determining. In all cases, for the production of the accident, it is necessary that the equilibrium which exists between the sphincters and levator ani, and their antagonist muscles, should be destroyed. Everything which tends to produce atony of the defecating apparatus ought to be counted as a predisposing cause; a general weakness, the paralysis of the sphincters, or of the levator ani, a chronic diarrhœa, etc., should be counted as a determining cause; all exertion which

* Malad. Chirurg: Boyer, t. vi., p. 581.

provokes too frequent or too strong expulsive efforts towards the anus, dysentery, constipation, tumors developed in the rectum, diseases of the urinary organs which prevent the free flow of the urine, (for defecation and micturition are performed at the same time, when one of these functions is obstructed,) labor, etc., whichever it may be, the tonicity of the sphincters and of the levator is already altered, or else the contractions of the antagonist muscles end by weakening and overcoming it. A determining cause may then have been a predisposing cause.

Here is a passage from an interesting work communicated to the Academy of Medicine, on the 16th day of August, 1853, by M. Duchaussoy, which well expresses the fact. After having said that, in children, falling of the rectum, independent of a well-marked surgical affection, has for its cause, diarrhœa or constipation, a constitution naturally feeble or debilitated by long disease, he adds, "under the influence of frequent liquid stools, all the coats of the intestine, but especially the mucous, the surrounding cellular tissue, and even the sphincter muscles and the levator ani, lose their normal tonicity and become relaxed. On the other side, the repeated and violent efforts required for defecation in children habitually constipated, cannot be harmless to the sphincter, and perhaps to the levator ani; for we know that if a moderate and regular exercise of our organs, and of the muscles particularly, tends to increase their volume and their power, fatigue too frequently repeated, on the contrary, causes perceptible losses, which may extend even to complete exhaustion of their power. One is thus led to believe that the exertions of constipated patients may so overpower the resistance of the antagonist muscular fibre as to make it lose all tonicity. This method of interpreting the etiology permits us to conclude that the two causes here enunciated do not produce falling of the rectum until they have caused an atony of a portion of the muscular apparatus of defecation. Diarrhœa and constipation, it is true, produce a previous change in the mucous coat sufficient to permit its turning out, but the persistence of their action ends by opening the barrier which sets free the mucous membrane."

Then there is dilatation of the sphincter, and considerable relaxation of the membranes of the intestine, especially of the mucous membrane and of the skin which is continuous with it externally. The cellular tissue which envelopes these latter acquires such a suppleness, especially in children, that it permits them to slide with an astonishing facility and at the least effort upon the surfaces which they

naturally cover, and which, in the normal state, they follow in their movements.

Thus, in children, there may be only a turning out of the mucous membrane which escapes from the anus in defecation, but as soon as the efforts necessary for the expulsion of the excrements have ceased, it returns spontaneously, or if it remains out, simple pressure of the fingers, directed from below upwards, and from forward back, suffices to make it return. It is then that the disappearance of the diarrhœa, or of the constipation, the increase in age, or invigorating treatment is sufficient to effect a cure. But frequently, a long time is required for this purpose, and we cannot depend upon it in a hospital. On the other hand, it is not rare to meet with subjects who have every appearance of health and in whom the organs of defecation, too long fatigued, cannot recover their tonicity without the assistance of surgery.

It is in adults and old people that falling of the rectum is observed with all the accidents which can produce it. Its obstinacy is then frequently the torment of practitioners and the despair of patients. If the tumor is reducible after each stool, then it is only an infirmity painful, no doubt, but which does not endanger life; but if it is irreducible, it may strangulate under the action of the sphincter, inflame, become gangrenous, and give rise to the most alarming symptoms. Patients ought not, then, to neglect attending to the disease at its commencement.

The treatment of this affection is of two kinds—one palliative, and the other curative. We shall here speak only of the surgical treatment, which is, without contradiction, much more prompt and more sure in its results.

After the considerations on which we have just entered, what ought we to propose? Evidently to combat by appropriate means the surgical causes when they exist; to put a stop to the excessive dilatability of the sphincter; to give more tone to the tissues about the anus. Nothing is more fit to fill these two latter indications than cauterization and excision. There is a great analogy between these two methods, which have followed nearly the same phases. For this reason, in speaking of one we cannot pass by the other in silence.

Excision, since it has been modified by Dupuytren, is considered, and with reason, as an excellent therapeutic means. Why should it not be the same with cauterization, now that M. Guersant has made it an operation as simple, and as little cruel as its results are certain? It is not so, however. We find in all authors descriptions of total or

partial excision of the tumor, and of excision of the radiating folds of the anus. But as to cauterization—some pass it by in silence; others describe different methods, without objection, however, and do not speak of that of M. Guersant. Finally, there are those who oppose it as dangerous.

This method, which was used by the ancients—which was praised by M. A. Severin, and pointed out by Sabatier, has been employed but little, so that we find in the books almost no well-detailed case of treatment of falling of the rectum by fire. It has been otherwise mentioned in different ways. In principle, it consists in drawing a red-hot iron over several points of the projecting tumor. A Belgian surgeon, Kluyskens, has performed, near our own times, two remarkable cures. In the first case, he treated a young man 22 years old, who had had a falling of the mucous membrane of the rectum, which made a tumor as large as the fist, which was reducible, but could not be retained. He had hæmorrhages, deranged digestion, and was wasting away, when he was cured in two months, by seven or eight applications of the red-hot iron, made at intervals of five days over the whole surface of the tumor.

In the second case, published in the "*Belgian Medical Observer*," (1834,) it was a woman 30 years old, who presented nearly the same symptoms. Three olive-shaped cauteries were carried by turns over the tumor, and the surgeon took care to introduce their point into the anal opening so as to touch all the projecting parts, and to produce eschars upon them. One application was sufficient for the cure. Kluyskens was then more bold than in the first case, and he had no occasion to regret it.

M. Begin uses a rose-shaped cautery, a flat cautery, and an olive-shaped cautery. The patient being placed on the right side with the thigh flexed, the left being extended, the tumor protruding, yet with the precaution to return a sufficient portion if the prolapsus is very great, the surgeon carries the rose cautery at a white heat into the anal orifice to the depth of about one centimetre, (0.39 of an inch.) When it is cool, the flat cautery is carried rapidly over the tumor, the borders of which are touched with the same instrument; and finally, the cauterization is finished with the olive-shaped cautery, which is better than the others for reaching the bottom of the circular furrow which separates the projecting tumor from the tissues of the anus.

M. Sedillot advises to reduce the tumor, and to carry rapidly into the anus a rose or olive-shaped cautery, which soon cools from the moisture of the part, and that should then be replaced by another.

He knows, he says, of a remarkable success obtained in this way by M. Barthelemy, of Saumur.

Lepelletier, of Sarthe, in his thesis at the Concours, in 1834, though entirely disapproving of cauterization, said that the least objectionable appeared to him to be that in which, by means of an edged cautery, several lines are traced along the length of the intestine.

Vidal, (de Cassis,) thus describes this operation: The patient is told to bear down to render the anus as projecting as possible; with an edged cautery at a white heat, lines are drawn more numerous in proportion to the greater size of the tumor and to the facility of its reproduction.

M. Malgaigne, who speaks of the same proceeding, recommends not to go with the cautery beyond the skin, and to follow the same rules for the number of lines as in excision of the folds of the anus.

In short, the proceedings hitherto described may be thus classified: I. Operations which are performed on the unreduced tumor, which consist, *first*, in reducing to eschars the projecting parts; *second*, in applying the red-hot iron to different points of the external tumor. II. Operations which are performed after the reduction of the tumor; *first*, by introducing into the anus a rose or olive-shaped cautery; *second*, by drawing lines with an edged cautery along different parts of the circumference of the anus.

Corresponding operations are performed with cutting instruments; total or partial excision of the unreduced tumor, and after reduction, excision of the radiating folds of the anus. Hey, of Leids, in 1688, removed all the tegumentary projections and hæmorrhoidal tumors which were connected with it. He thus made a circular wound which produced a firmer adherence of the rectum to the surrounding parts, and a stronger closure of the sphincter of the anus. Sabatier and Heustis, also, completely removed the rectal tumor; the former with scissors curved on the flat; the latter, with the bistoury. Dupuytren thought that good results might be obtained by removing longitudinal strips of the mucous membrane by means of a dissecting forceps and curved scissors. This operation has succeeded, but it is easy to see that there is danger of hæmorrhages, difficult to arrest, and besides, it has been supplanted by excision of the radiating folds, formed by the mucous membrane and the skin around the anus.

After the comparison which we have thus made, let us seek for the cause of the disuse into which cauterization has fallen. We find it rather in the apprehension which it excites in the mind, than in the disastrous results, for no case is brought forward to discredit it; and

it appears to us, after the numerous clinical facts which we have observed, that if it had been seriously tried, it would have been placed, at least, on a level with excision for fulfilling the same indications.

If it had been performed in only one way, this way might have been bad and been attacked with reason; but the proceedings are various, and the opinions concerning them are always rather unfavorable. It is, therefore, the cauterization which is objected to.

Here are some of the opinions of this method which we have collected from authors who have not disdained to speak of it:

Lepelletier, after having given a description of cauterization, adds: "However, this proceeding, on account of the pain which it produces, the violent inflammation and prolonged suppuration which ordinarily follow its use, and the subsequent degenerations to which it may expose one, especially with a bad constitution, appears to deserve the neglect to which all practitioners have condemned it, in the curative treatment of this disease as well as of hæmorrhoids."

The cauterization praised by M. A. Severin, says Blandin,* is only proper, in our opinion, for arresting the hæmorrhage which occurs sometimes after excision. Amputation of the tumor, either by means of the bistoury, or of the ligature, excision of the radiating folds of the anus may, according to the case, be resorted to with advantage.

Sanson admits of cauterization only under the following circumstances: "After the operation of Dupuytren, hæmorrhage does not occur, but if the accident should be met with, it would be easy to remedy it by applying the actual cautery.†

Dupuytren advises us to arrest the hæmorrhage in the same way. "It is necessary, then, to have recourse to excision of the tumor, or a portion only of the tumor which protrudes, and of the hæmorrhoids which may exist on the mucous surface. But this excision," adds the professor, "which sound practitioners, and among others, Sabatier, have praised, exposes to accidents, and especially to a hæmorrhage, which may become serious, and which has sometimes been fatal. The removal of a greater or less portion of the mucous membrane of the tumor and of the hæmorrhoidal projections, followed by cauterization with an ordinary cautery, at a red heat, independently of the acute pain which it produces, would excite a violent and more or less troublesome inflammation of the intestine and of the neck of the bladder."‡ It is true, that we read on page 159 that if there should be a great

* Dict. de Med. et de Chirurg. prat., 1835.

† Roche and Sanson nouveaux elem. de pat. Med. Chirurg.

‡ Leçons Cliniques, t. iv., p. 151.

flow of blood after excision of the folds of the anus, it would be better to arrest it by the application of the actual cautery, than to employ a tampon, a method on which experience has proved that we can depend but little.

Vidal gives the following opinion of the method which he describes: "By the cautery, we hope to cause the formation of nodular tissue, which it is known has a very marked property of contraction. This method, which is not without inconvenience, and which may excite a severe rectitis, is not more infallible than resection."

M. Malgaigne thinks that Dupuytren's excision is more simple and less terrifying than cauterization. But, on the other hand, when the falling of the rectum is complicated with hæmorrhoids, hæmorrhage may follow it, and cauterization, which is also more efficacious, then deserves the preference.

In general, then, objection is made to cauterization, that it frightens the patients; that it produces severe pains, violent inflammations, and a prolonged suppuration; and that it exposes the patient to subsequent degenerations. Let us see how well founded these objections are. And first, the pain caused by the cautery at a white heat is not more intolerable than that produced by a bistoury, the operation occupying the same time. What is more, in the case of the woman he cured, Kluyskens noted that the patient who had made a great outcry at the preparations for the operation, made none during the operation itself.

The applications of moxas, of Vienna paste, etc., are more painful than a rapid cauterization with a red-hot iron, and yet children bear it readily. Besides, the pain and fright which patients experience are annihilated by chloroform, which is also employed with the knife.

It is the same with inflammation. The cautery does not produce it any more than Vienna paste, and we have often seen M. Guersant smear over erectile tumors and cauterize the margin of the anus with the actual cautery without ever causing any accidents from inflammation. We have also seen applied, and have applied in the hospitals and city practice, many hundreds of patches of Vienna paste to different parts of the body without having to regret the least accident. M. Ph. Boyer has destroyed with success, by the cautery, at a white heat, an immense quantity of hæmorrhoidal tumors.

We cannot grant so great impunity to cuts with the knife; and we know that some threads passed into an erectile tumor on a child of a high family, and the incision of a little tumor on the forehead of a lady of quality, gave rise, in the hands of a distinguished surgeon, to

erysipelas, of which the terminations were fatal. The cautery inflames less than many proceedings which appear to be entirely inoffensive.

The objection to the prolonged suppuration which would follow the action of the red-hot iron, does not appear to us to be any better founded. It is true, that the inflammation necessary to the elimination of the eschar, results in a suppuration more or less abundant, according to the extent of the part burned; but on the separation of this eschar, we find ourselves with a wound of a good character, the cicatrization of which will be at least as prompt as that of a wound made by the knife. Besides, the eschars are never extensive enough to produce long and dangerous suppuration; and when they are limited, as in M. Guersant's method, the cure takes place as soon, and frequently sooner than by Dupuytren's excisions. The eschars fall off on the fourth or fifth day and cicatrization takes place from the eighth to the tenth. It is evident that if we attempted to obtain a union by first intention, a cutting instrument alone must be used.

As to the subsequent degenerations to which the cautery *may* expose one, we do not know that any one has ever observed them, and the author himself only supposes it.

As can be seen, the more or less exaggerated objections which we have just reviewed, cannot, at most, apply, except to the old methods of cauterization, which correspond to the total or partial excision of the tumor. This excision which Dupuytren himself considered dangerous, may compromise life, and has been frequently practised. We have nothing to fear from cauterization, and yet it has been completely abandoned.

Almost all of the other passages which we have cited, admit of cauterization only to arrest hæmorrhage consecutive to excision. Blandin and Sanson advise it in this case. Dupuytren, though pointing it out, dreads it. Vidal de Cassis, who describes it as a means of cure, has but little confidence in it for this purpose, and suspects it of producing grave rectitis. It is M. Malgaigne who appears to us to judge wisely in the matter; but he thinks cauterization is less simple than excision. Yet we can almost anywhere improvise a cautery, the application of which will be, in our opinion, easier than excision, which requires the raising of a certain number of radiating folds by means of a dissecting forceps with wide teeth, or mouse teeth, and their removal by the scissors curved on the flat.

In a word, after having seen the actual and potential cautery used skilfully and successfully a very great number of times in the hospi-

tals, and especially at the Children's and Midi, without ever having seen any accidents—remembering, on the other hand, that it is not rare to see a cutting instrument produce erysipelas, inflammation, and hæmorrhage—we do not hesitate to put total or partial cauterization of the rectal tumor much before the corresponding operation by excision; and as excision of the radiating folds of the anus is the operation by the knife, which is the most frequently indicated, we prefer to it of the cauterizations described, that which consists in making radiating lines with a cautery, following the same principles as for excision of the folds of the anus.

M. Malgaigne advises not to penetrate beyond the skin. M. Guer-sant, on the contrary, involves not only the skin but the sphincter muscle; and it is, perhaps, for this reason that with so small cauterizations he obtains so good results.

We cannot do better than to reproduce here a fragment of one of those excellent lectures which he delivers on Thursdays at the hospital (*des Enfants malades, enfant Jesus.*)

“When children have falling of the rectum and the different means used in such cases fail, if the constipation which is the cause of it does not yield to the different kinds of laxatives; if in other cases the diarrhœa persists, an operation appears to us to be necessary.

“Excision of the radiating folds of the anus, practised by Dupuy-tren, having failed many times in our hands, and believing that the falling of the rectum was frequently due to want of action in the sphincter, we have for a long time thought that by acting upon the sphincter at the same time that we did upon the skin, by means of the actual cautery, we could easily remedy the defect in the contractility of that muscle. Yet we have not been willing to practise, as was formerly done, complete cauterization of the mucous tumor which projects from the anus, but we are content usually with proceeding in the following manner. The patient who has been dieted and taken an injection a little while before the operation, so as to have the intestine empty, is laid upon the side, the thighs flexed upon the pelvis, the tumor reduced.

“An assistant draws away one of the nates, and we draw away the other with the left hand, reserving the right for performing the cauterization.

“We have used for this purpose, sometimes a little cautery shaped like those used by dentists; sometimes a simple curved steel stylet. At the present, we use a metallic point, mounted on a little spherical cautery, analogous to that which we use in the cauterization of erect-

ile tumors. The important thing in this operation appears to us to consist in the application of a small metallic point at the four different points of the circumference of the anus—one at the posterior part, corresponding to the coccyx, another in front, opposite to the preceding, and the two others on the sides. We have noticed that these cauterizations succeed better in proportion as they pass through the skin and penetrate to the sphincter. It also appears to be indispensable for success, to draw well out the circumference of the anus, and to place the point of the cautery, forcing it in some millimetres, just at the union of the skin with the mucous membrane.

“It will be understood that, to operate with certainty, it is necessary to put the child under the influence of chloroform, and to have the cautery at a white heat.

“If, during the operation, the rectum protrudes, we incline it to the side opposite the point we are cauterizing.

“After the operation, we do not make any particular dressing, but content ourselves with using cool lotions.

“Some children are cured from the day after the operation; but this is the smallest number. It happens that the falling may reappear several days, and that the cure takes place only at the end of eight or ten days, when cicatrization is complete. It is at this time that occasionally a second cauterization is necessary; but we have rarely been obliged to resort to that. It will be understood that this method, which with us succeeds, so to speak, constantly, may fail in some circumstances. We recommend it as a method very generally successful, but not infallible. The incision of Dupuytren involves only the skin. With the heated points we pierce the skin and act upon the muscle; and moreover, as with most operations done with the red-hot iron, we do not have to apprehend, as we do in using the knife, erysipelas and inflammations, never having been obliged to combat them.”

We could furnish in support of this proceeding a large number of cases, collected in the wards of M. Guersant, but they resemble each other so much, that a few will be sufficient to show the manner in which things are done.

Case I.—Jules Serveise, 2½ years old, entered the hospital, January 9, 1854. Constitution good; no porrigo. No preceding disease. The mother observed five months ago, that after the efforts which the child made on going to stool, a large red tumor formed at the anus, the reduction of which became gradually more and more difficult. Up to the time of the first manifestation of falling of the rectum the

child had frequently been constipated. After the appearance of that difficulty, diarrhœa alternated with the constipation without alteration of the health. Inspection and examination show a marked dilatation of the anus, which allows two fingers to be passed through without meeting with the least obstruction.

January 12.—The child was chloroformed and the operation was performed with a small conical cautery, analagous to that which is used for the teeth. It was applied at the four points above designated, and which M. Guersant calls the *four cardinal points*.

13th.—The little patient is in a very satisfactory condition, and complains of a pain not very acute in the affected region.

14th.—A stool of natural consistence, without falling of the rectal mucous membrane.

15th.—Two stools. The falling returned. The eschars began to separate. From the 15th to the 18th, condition the same; the mucous membrane forms a tumor when he defecates; but from the 18th to the 22d there was a kind of relapse; there were about three stools a day with the same falling, and the reduction was very painful. The eschars have fallen, and in their place there are small linear ulcerations.

23d.—The mucous membrane escaped but once with three stools. From this moment there was no more falling, and the little patient left the hospital on the 30th in the most satisfactory condition.

Case II. Adolphine Cotelier, $2\frac{1}{2}$ years old, came back from the nurse in a condition of great debility. Epistaxis frequent; face pale; lips colorless; frequent diarrhœa. Every time she went to stool there was falling of the mucous membrane of the rectum. Upon her admission, October 29, 1855, to the Ward of Saint Theresa, she was placed upon a course to build her up again. By degrees the epistaxis disappeared, the face gained color, the flesh returned, the diarrhœa stopped, but the falling of the rectum continued as before.

November 22d, M. Guersant applied the cautery, as in the preceding case. The rectal mucous membrane continued to fall till the 6th of December. At this time the small wounds were cicatrized, and from this moment the child was cured. She went out on the 16th of December, and would have been brought back if there had been any relapse. The cure continues.

It required eleven days to obtain a cure in the first case, and fourteen in the second. The general condition of the first patient was satisfactory; that of the second was worse. Notice that the surgeon used a small conical cautery, which did not penetrate deeply into the tissues, and which, notwithstanding, produced on the whole, more con-

siderable losses of substance than those occasioned by the metallic point mounted on a spherical cautery, and which was used in the following cases.

Case III. Armand Daumartin, 10 years old, entered the Saint Come Ward, January 31, 1854. Temperament lymphatic; no previous diseases; nothing the matter with the urinary organs; no cause for frequent straining; stools regular; neither constipation nor diarrhœa. The father stated that the trouble had existed from birth.

February 2d.—The operation was performed by M. Guersant, who, instead of the conical cautery, previously substituted for the olive-shaped cautery, used a cautery similar to that which he has used for the cauterization of erectile tumors. The points cauterized were the same as those pointed out in the preceding cases. Here the cauterization is smaller but deeper, and the heated points are forced down to the anal sphincter.

February 3d.—No stools. 4th, one stool; no falling of the rectum. 7th, examination of the anus; small, irregular ulcerations situated almost entirely on the mucous membrane. The anus is still dilatable. From the 8th to the 11th, the same condition. 12th, cicatrization of the small wounds; the finger is pressed, though feebly, upon its introduction into the anus. 15th, the little patient presents nothing abnormal. He went out from the hospital on the 25th without the cure being falsified a single instant.

The cure was obtained in this case after a single cauterization, although the patient was ten years old. The cautery was carried down to the sphincter. Is it to this circumstance or to the greater strength of the patient that the success is to be attributed? Here are other cases which show that it is to the method of operating.

Case IV. Marguerite Grimmer, 2½ years old, entered the Saint Therisa Ward on the 30th of July, 1855. This child, of a pitiful appearance, has never had any severe sickness. She has no symptoms of scrofula, and is disposed to constipation rather than diarrhœa. Two months since, her parents saw that the rectal mucous membrane came out, especially after the stools, and they returned it easily enough, but it returned sometimes a minute after without there being any efforts to defecate. When the little girl entered the hospital her rectum was down. It was returned without much difficulty, and then two or three fingers could be passed into the rectum.

August 2d.—The same cautery used in the preceding case was applied at four points of the circumference of the anus at the junction of

the mucous membrane with the skin. The falling of the rectum did not return, and the patient went out cured, on the 24th of August.

The affection in this child was of only two months' standing, while in cases I. and II. of the same age, it dated farther back; but on the other hand, this case was much more severe than those preceding.

Case V. Felix Andre, 8 years old, entered the St. Come Ward, January 28, 1856. He had enlarged glands in the neck and porrigo on his head; he is pale, poor, and subject to diarrhœa for several years. His father traced the disease back for about five years. On the same day the operation was performed, and in the same manner as in the two preceding cases. The falling did not return after the first cauterization.

Case VI. Martin, twelve years old, was admitted to the hospital, August 31, 1857. This child had on his neck marks of several ganglionic abscesses. However, he ordinarily enjoyed good health. He had the measles when seven years old, typhoid fever when eight, and cholera some months after, in 1852. During his cholera he had a falling of the rectum, for which he was treated to no purpose at the Child's Hospital, by astringent ointments. He re-entered the hospital on the 31st of last August, to be cauterized by M. Guersant.

The operation was performed on the 10th of September with the same metallic point. After this time the prolapsus did not return.

September 26th.—The small wounds following the burning finished cicatrizing, and the child went easily to the water closet once a day without passing anything abnormal. He went out from the hospital, and came back to see us on the 3d of October, completely cured.

Conclusions.—In going over nearly all that has been written concerning falling of the rectum, we come to the conclusion that the knife and cautery have given good results. But as the first means may produce hæmorrhage, which, almost unanimously, it is advised to stop by the red-hot iron, as, on the other hand, this latter method appears more efficacious than excision, we think it better to commence with that.

In drawing a parallel between the effects of the cautery in general, and those of cutting instruments, it would not be very rational to be afraid of the cautery in cases where the bistoury does not appear to be dangerous.

The cautery, as authors acknowledge, being applicable to all those cases in which the bistoury endangers serious hæmorrhages, why prescribe it in other cases?

Of all the operations performed with the knife, that most fre-

quently indicated is the method of Dupuytren, which is the simplest, most elegant, and is not dangerous. This, it is our advice, unless there is some particular susceptibility on the part of patients, to replace by the method of Guersant, which is easier, and which, with a still more limited loss of substance, produces in children more constant effects. The unsuccessful case quoted in Dupuytren's clinic was in a child, and was attributed to the cries and indocility of the little patient. But the skillful surgeon of the Children's Hospital has seen excision of the radiating folds of the anus performed with entire freedom, frequently fail in young subjects, otherwise he would not have substituted cauterization for it. This proves that falling of the rectum is not in them so easy to cure, as is often said.

One more question: Does cauterization act by producing adhesions between the mucous membrane and the subjacent tissues, by contracting the anus by the formation of nodular tissue, which has a very marked power of contraction, or by contractions of the sphincters?

We think, without absolutely rejecting the other causes, that the cure cannot take place unless the sphincters have recovered their natural tonicity. The following arguments seem to be in favor of this opinion. Extensive adhesions, (and it is necessary that they should be extensive to be of any importance in the cure,) produced artificially in an organ required to dilate and contract, and which needs to be very supple, could not remain a long time without interfering with the functions of that organ. On the other hand, it could only be an enormous loss of substance which could contract the anus sufficiently to prevent prolapsus of the rectum; the small quantity of nodular tissue which has been formed is not sufficient to produce such a result. Besides, it is necessary that the anus should continue to be dilatable for the passage of the excrements.

It is not, then, to so mechanical a cause that the cure must be attributed, but to a physiological cause, viz., the re-establishment of the tonicity of those muscles which have lost it.

It may be objected that excision and superficial cauterization, though they have no direct action upon the sphincters, still effect a cure. But the pain excites contraction of these muscles; the inflammation extends from the skin to the cellular tissue and the sphincters, and for a few days there is pain when the patients go to stool. The inflammation soon abates, the sphincters relax, but they are thenceforth ready to contract at the least effort.

M. Demaraquy has obtained a cure by galvano-puncture, but he

was obliged for fifteen days in succession to galvanize the sphincters and the levator ani, for some minutes.

M. Guersant has obtained more prompt results, since he penetrates deeper than the skin with the metallic point of which we have spoken. Finally, we recall the experiments of Dr. Duchaussoy with strychnine. Wishing to give tone to the muscles of defecation which were deficient in it, he thought of applying small ammoniacal blisters sprinkled with this alkaloid to the margin of the anus, and his experiments were successful. There is in the *Gazette des Hopitaux*, of the last of August, 1853, a conclusive case. He treated a little girl 11 years old, who had had falling of the rectum four years, it having become 10 centimetres long. This child had signs of scrofula, and was ordinarily constipated. The dilatation of the anus allowed four fingers to be carried in.

On the evening of the 13th, he applied a small blister at the point where M. Guersant makes his first cauterization, and sprinkled it with .01 gr. of strychnine. He increased the quantity gradually to .03 gr. applying two new blisters. The child had twitchings of the lower limbs, and the mucous membrane which had continued to come out during the first days of the treatment did not after the 18th of the same month, that is to say at the end of five days.

We prefer cauterization because it requires infinitely less caution than strychnine, which is undoubtedly a powerful, but double-edged weapon.

Popliteal Aneurism cured by Digital Compression. Translated for the MONTHLY, by J. H. D.

M. Verneuil, in the *Gazette Hebdomadaire*, for October 30, 1856, has analyzed several cases of popliteal aneurism reported to the Surgical Society of Paris, as cured by digital compression. From these he draws the following favorable conclusions:

1. Indirect digital compression, continued or even intermittent, executed by the able hands of aids or by the patients, can alone, or without the anterior or ulterior assistance of any other means, cure aneurisms.

2. Associated with the tourniquet and alternating with it, it has produced cures equally rapid and of a great simplicity. In general, the success is not slow in taking place, when the trial is to be successful.

3. By itself, it has cured aneurism when the mechanical compression was impracticable, or was necessarily abandoned; better supported, in

fact, than the latter. Digital compression can be applied upon points where the skin is already inflamed.

4. This compression is the most efficacious and the least painful of all; it permits us to act only upon the artery, avoiding the nerves and adjoining veins, and carefully managing the skin.

5. Digital compression can fail, but in this event it usually modifies to advantage the condition of the aneurism.

6. It is reasonable to believe, that alone it would have succeeded oftener if it had been practised with more perseverance and regularity than has been done in the cases cited.

7. Until now, no accident of any kind has been attributed to this process.

8. Applied for the first time with success by Saviard, following an operation for aneurism by the ancient method, indirect digital compression is then essentially of French origin; it has not, however, as yet, received that extensive application and generalization of which, in our opinion, it is susceptible.

On Gunshot Wounds of Military Suicides. By HENRY WALLMANN, M.D., Surgeon in the Austrian Army and Assistant at the Joseph's Academy.

It is well known that soldiers usually commit suicide with their fire-arms. I have examined closely the statistics of the suicides for the last eighteen years, in the Vienna garrison, (from 1839 to 1856,) and obtain the following information from them:

1. That suicides have increased during the last four years, the highest number being in 1856, the lowest in 1847.

2. The proportion of suicides in general to those who shoot themselves, is as 30.8 to 20.3. From this we can conclude that of three who commit suicide in the army, two shoot themselves.

From the Board of Health we learn that in the whole Austrian army there occurred 274 suicides in 1846, and in 1845 only 239. Among the 274 suicides 172 shot themselves.

The method of self-destruction used next in frequency is by hanging. By careful computation we find that where 30.8 suicides occur in the army, 20.3 are by shooting and 6. by hanging.

As the soldier commits suicide by fire-arms, he uses a musket or a pistol; in the proportion of 60 per cent. for a musket, and 40 per cent. for a pistol.

In 1852, an artillerist, aged 19, took away his life in a singular manner. He placed himself with a lighted match before the muzzle of the cannon, and thus by the explosion of the cannon instantly destroyed himself. The body was cut in two near the lumbar vertebræ.

As regards the *age* of those who shoot themselves, out of 100 there were four, 19 years old; eight, 21 years old; thirteen, 22 years old; twelve, 23 years old; eight, 24 years old; fifteen, 25 years old; four, 26 years old; six, 27 years old; seven, 28 years old; two, 29 years old; four, 31 years old; two, 32 years old; three, 34 years old. The rest of the single cases occurred within the above-named limits.

The *causes* which induce these unhappy persons to kill themselves are seldom known with certainty. The usual ones are, fear of punishment, a dislike to a military life, melancholy (home-sickness,) dissipation, gambling, drinking, debts, wounded honor, bodily sufferings, &c.

As to the part of the body the soldier selects upon which to inflict the death wound; 60 per cent. shoot themselves through the head, 40 per cent. in the thorax, (in the region of the heart.) Among 100, 2 shot themselves in the abdomen.

Finally, I must add some remarks relative to the appearances and pathologico-anatomical condition of the opening and course of the gunshot wound.

First of all, I must contradict the common opinion, that the edges of the wound at the point of exit of the ball are directed outward, and that of the entrance inward. This condition of the gunshot wound was seldom observed. I have found that the condition of the wound—the entrance and exit—and of the course, is peculiar to each case, and is also different in each case. I say this because I have had a large experience in gunshot wounds, and especially those of suicides, and am therefore qualified to judge.

The law in Austria does not permit a post-mortem until forty-eight hours after death; during this period the body is exposed to the operation of chemical changes and the decomposition thereby caused. To this is added in summer the heat which accelerates, and in winter the cold which retards, but does not prevent decomposition, it taking place more readily upon an elevation of temperature.

No one will deny that such influences upon the body change essentially the elasticity of the skin, the tenacity of the muscles, &c. The rigor mortis, also, is not without some influence upon the condition of the body. Rigor mortis being present, the skin is less elastic, the muscles stiff and rigid, the limbs immovable, etc. After rigor mortis all parts of the body become relaxed. These circumstances have an

important influence upon the condition of the edges and opening of the wound. Moreover, the position of the body, the incidental diseases of the body, such as morbus Brightii with anasarca, tuberculosis with œdema, &c., the place, and the temperature of the place of the suicide have also an important influence upon the condition of the edges of the gunshot wounds.

The opening has generally the form of the projectile, and is in the living subject through the contractility of the skin smaller than the ball, but in the dead body the opening is larger, especially after rigor mortis. At the moment of the injury the edges of the wound are directed inward; later, and especially in the dead body, this condition does not exist; indeed the edges of the opening can be pressed outward through inflammation, if the person lives only a short time (a few moments or perhaps an hour,) after the injury is inflicted.

The edges of the opening (wound of the skin,) are either cut smoothly, or irregularly torn. The exit, if the ball has traversed the body, is usually smaller than the entrance, and has mostly a torn and angular edge, with and without an outward direction, and may have even a round form if the exit is impeded as it were by a close lying body.

The course of the ball may have different directions, it may be even angular.

Gunshot wounds of different parts of the body, for instance, of the brain, muscles, bones, liver, lungs, kidneys, bladder, &c., appear different in regard to the injury given. The muscles under the skin are almost always torn irregularly, and infiltrated with blood. The bones have a hole of the size of the projectile, or the shot may cause a fracture with splinters. In the lungs as well as in all contractile elastic tissues, the course of the wound is narrow with ragged walls, and with an angular or torn opening. The arteries have a similar appearance. The liver and spleen also, in gunshot wounds, is generally lacerated in irregular directions. The heart is ruptured in a peculiar manner, that is, half of the heart, following the direction of the muscular fibres, with many flaps directed inwardly and outwardly like a seed capsulo. The ball remains either in the body with the wadding, or passes out without it.

For loading, fluid, (mostly water,) or solid substances are used, such as pieces of lead, iron, fragments of glass, less frequently brandy, mercury, air (blank cartridge.) Liquid charges fired near at hand produce severe and extensive wounds. In such cases there is no entrance or course to the wound, but the parts are destroyed in an irregular and ragged manner, so blown in pieces and injured that the parts can-

not be recognized. A blank cartridge discharged close at hand has the same effect. Of solid substances, pieces of lead are mostly used. Lead balls, especially when impinging against hard parts, materially change their forms, are flattened, bruised and cut in two, or into irregular pieces. Gunshot wounds made by the hands of others, present similar appearances.

The healing process of gunshot wounds, especially of the bones, sometimes progresses in a peculiar manner. Thus it appears different in the skull, in the hollow bones, and in the pelvic bones. Upon this part of the subject I will give my experience at another time.

REVIEWS AND BIBLIOGRAPHY.

Materia Medica and Therapeutics, with ample Illustrations of Practice in all the Departments of Medical Science, and very copious Notes of Toxicology, suited to the wants of Medical Students, Practitioners, and Teachers. A new Edition, revised and enlarged. By THOMAS D. MITCHELL, A.M., M.D., Professor of Materia Medica and General Therapeutics, in Jefferson Medical College, and formerly Professor of the same in Transylvania University. Philadelphia: J. B. Lippincott & Co.; pp. 820, octavo. 1857.

A knowledge of medicines and their uses is to the practitioner of the healing art, what weapons and their skillful handling are to the soldier in active conflict upon the field of battle. With the latter a knowledge of military tactics, in all its circumstantial conditions, avails nothing, without the weapons necessary to make an assault effective, or defensive resistance successful. So with the former, a knowledge of anatomy and pathology, and skill in diagnosis, avail but little, save as guides to a dexterous use of those weapons with which disease is combated and overcome, ere the citadel of life is stormed and death secures the victory in the conflict.

With practitioners, in the active discharge of their laborious and responsible duties, books upon the practice of medicine and surgery; upon obstetrics, diseases of females, and of children; works upon special subjects, as upon diseases of the skin, liver, lungs, heart, stomach, urinary organs, &c., are ordinarily sought for and read to the greater or less neglect of works upon *Materia Medica*. It is true, the subjects of special pathology, symptomatology, diagnosis, &c., as related to all the diversified forms of disease and varying conditions,

require more laborious study and pains-taking research, than that subject which it is the object of the volume before us to elucidate. But, after all, the principal object of all medical study is the judicious and skillful appliance of remedial agents, to the mitigation and removal of all the diversified forms of diseased action. Perhaps we ought to confess to a slight weakness upon this subject; for by us, all new works upon the subject of *Materia Medica* and *Therapeutics* are earnestly sought for and read with avidity.

We are not unmindful of the fact that the work before us is but a new and revised edition of a work that has been several years before the profession; but as the first edition was issued prior to the establishment of the *MONTHLY*, and, consequently, unnoticed in its pages, the present brief notice of the new and enlarged edition seems by no means uncalled for.

Of this edition, it is said in the preface, "the author has carefully revised the work, and brought it down fully to the present time. As a consequence, the bulk of the volume is augmented, a circumstance altogether unavoidable. He has added his own experience on various points, and the best testimony of the great world of physic, with the design of putting a book of real value into the hands of students and practitioners." "It is believed that every valuable new application of an old remedy, as well as the desirable uses of agents claimed to be new, down to the date of this prefatory note, are here presented so as to set forth their real or apparent worth."

This prefatory claim is doubtless just; for we certainly know of no work that evinces a more pains-taking research into the literature of the subject upon which it treats, or which embodies a greater amount and variety of opinion, culled from the great storehouse of medical literature. This may seem strange when the bulk of the volume is considered, knowing that there are several works upon *Materia Medica*, issued in this country, embracing two volumes, each of which is as large or larger than the work before us. But it should be remembered that the natural, botanical, and chemical history of the various medicines treated of, are entirely omitted, thereby saving much room for matter of every-day interest and practical utility. There seems to us a propriety in this omission, so far as the interests of practitioners are concerned; for a repetition of these historic details but increases the bulk and cost of a volume, without a corresponding benefit. We confess, however, that this omission somewhat impairs the value of the work as a text-book for students; for it is by this class mainly that the natural, botanical, and chemical history of medicines is read

and studied; the busy practitioner omits such details entirely in his reading.

The arrangement adopted by the author is the alphabetical, which certainly has some advantages over any other. New remedies, whose action is not fully understood, cannot well be classified; yet, in an alphabetical arrangement, no embarrassment is experienced; they can be fully considered in their proper place, and all that is known in regard to them fully brought out. Again, in the alphabetical arrangement a medicine can be considered in all its varied relations, and all that is worthy of note taught concerning it; "far better," says the author, "to dispose of it thus, than to treat of it under the separate and distinct classes usually named in books."

In regard to the *modus operandi* of medicines, the author says, "we confess, most candidly, that we know very little on this subject—almost nothing that merits the title of accurate and demonstrative. In our judgment, very many points in this relation, deemed by many as settled, are yet, fairly and literally, matters to be determined. The profession has been too self-confident, and is yet to be shorn of some of the imaginary honors it has worn for years." Notwithstanding this confession, twenty-five pages are devoted in the onset to the consideration of the methods by which medicines act in the removal of disease.

It is not to be expected that we will follow the author in his handling of the various articles treated of in the work before us. It is sufficient to say, that he has always recorded his own opinions with faithfulness, and industriously culled the most trustworthy opinions of others, from the various sources of information open to untiring research. While we bestow this high encomium, we are compelled in justice to say that, in a few instances, subjects are treated of quite too briefly, and, in still rarer instances, medicines are omitted that are certainly worthy of consideration. In some instances, medicines are advised, having in view certain pathological opinions, by no means up to the present state of that science. As illustrative of this last idea, we quote the following: "As an external application the spiritus mindereri has been successfully tried in *tinea capitis*, after poulticing to remove the scabs and cleanse the surface. But neither this nor any other lotion or appliance will avail in scald head, unless special care be paid to the condition of the digestive organs," p. 138. Now, it is a well-established fact that *tinea capitis* is a local disease, having no connection, as cause and effect, with derangements of the digestive organs or circulating fluid. Dr. Schoölin, of Berlin, first detected in the crusts of

porrigo a peculiar microscopic fungus, and now the cryptogamous nature of the disease is recognized by all intelligent members of the profession. For several years, we have been in the habit of curing this disease with the local application of a medicine which Dr. Mitchell has not considered worthy of mention. In the Medical Counsellor, for 1855, we published a paper on the treatment of porrigo by the local application of *petroleum*. Since that time, we have treated many cases, solely with the local use of this agent, without a single failure. Hence, the statement of our author is incorrect, and, in this instance, his implied pathology behind the present state of that science. If he will put the *petroleum* to the test, he will certainly find it worthy of mention in his next edition.

If we rightly understand our author, he believes in the possibility of spontaneous generation of worms in the animal economy. "We believe that worms may be generated within, although we believe they are, for the most part, derived from an external source," p. 152. We had supposed the idea of the spontaneous generation of worms, once entertained by many, was now abandoned by all intelligent members of our profession.

We had marked several other passages for remark, as implying incorrect pathological opinions, but we forego our purpose in this regard, knowing that it is easier to criticise than to produce a work presenting no points for criticism.

If disposed to be critical, we might find fault with the egotism displayed in the preface. We quote the following in illustration of this remark: "The book is therefore chiefly a volume of facts, *quite as reliable* as any to be furnished by the profession anywhere." "It will be found to contain a vast amount of facts which *cannot be found in any other volume*." "It embodies a large amount of practical information, which the author regards *equally reliable* with any other stock of knowledge to which practitioners have access." These statements may all be true, and if true the reader would be very likely to find it out. It is certainly in bad taste for an author to speak in such terms of commendation of his own work, in comparison with the works of others. We might object to the grammatical correctness of changing the personal pronoun from singular to plural, many times upon the same page, as is often done. We quote the following in illustration: "But from much experience in the management of infantile patients, *I* learned abundantly the facility of operating on the entire system by remedies applied to the surface. *We* have already spoken of the efficacy of rhubarb, applied to the abdomen of young children," p. 32.

These, however, are only minor blemishes, which, though inexcusable in a second edition, do not detract from the usefulness of the work.

Though we have felt it our duty to allude to what we deemed an occasional defect or blemish, the work is worthy a place in every medical library, and the practitioner will find it an embodiment of opinions to which he will have frequent occasion for reference. The Index, so important in all works of reference, is certainly perfect—occupying fifteen closely printed pages. To those who are acquainted with the various issues from the house of the enterprising publishers, it is needless to say that the work is issued in the highest style of art.

O. C. G.

Medical Lexicon; a Dictionary of Medical Science, containing a concise explanation of the various subjects and terms of anatomy, physiology, pathology, hygiene, therapeutics, pharmacology, pharmacy, surgery, obstetrics, medical jurisprudence, dentistry, etc.; notices of climate, and of mineral waters; formulæ for officinal, empirical, and dietetic preparations, etc., with French and other synonyms. By ROBLEY DUNGLISON, M.D., L.L.D., Professor of the Institutes of Medicine, etc., in the Jefferson Medical College, of Philadelphia. Fifteenth Edition, revised and greatly enlarged. Philadelphia: Blanchard & Lea. 1857.

This rather full title we copy because it will give, to any one who may not be acquainted with the book, a very exact idea of its contents, or of the extent of subjects which it is intended to cover. Perhaps there is no man in this country except Dr. Dunglison who would have had the patience, ability, and industry to wade through the amount of labor necessary in the first construction of such a dictionary. No one could have done it better, if we may be permitted to judge of it by the completeness with which it has satisfied our almost daily calls upon it for information during the last ten years. Of course, it has sometimes failed to answer our questionings, otherwise it would not have been of human work; but in the majority of instances, it has satisfied us. The present edition is increased, we are told, by the addition of six thousand subjects and terms—enough in themselves to make a very respectable book. A dictionary does not admit of a review of much general interest, and it is none of our ambition to pick out little flaws to exhibit to the world. We cannot say more, and we cannot say less than that we *know* this book to be constantly useful to every one who writes or reads upon medical subjects. It is the foundation stone of a good medical library, and should always

be included in the first list of books purchased by the medical student. It may be obtained in this city of Wiley & Halstead.

Researches on Epilepsy; its artificial production in animals, and its etiology, nature, and treatment in man. By E BROWN SEQUARD, M.D., Prof. of Physiology at the Cooper Institute, N. Y., etc., etc. Boston: 1857. pp. 82.

This brochure has appeared in the pages of the *Boston Journal*, but is republished in a permanent form. It consists of a series of arguments based on experiments on animals, and on clinical observations intended to demonstrate the nature of the disease, and to point out the character of the treatment it demands. To enter upon this subject thoroughly, to analyze and examine the reasoning, cannot now be done by us except in a manner too hasty to satisfy ourself, or to meet the just claims of the author. Contenting ourself, then, with the simple statement that the book contains very valuable suggestions and abundant material fitted to excite inquiry, we give the conclusions of the author as far as they refer to the treatment of the disease. Those who are not content with this, can order the book of J. Pennington & Son, Philadelphia.

Treatment of Epilepsy.—Proposing to develop fully this subject elsewhere, we will merely lay down here a few propositions.

1. The first thing to be done in a case of epilepsy is to find out if its origin is peripheric. The state of all the organs must be inquired into as completely as possible.

2. If it be ascertained that epilepsy is of peripheric origin, employ proper means to separate the nervous centres from this origin, or to remove the cause of the excitation entirely. Leaving aside what relates to the viscera, the application of ligatures, as we have shown in § IX., (to be put around the middle of the limb.—EDS.) ought to be tried first. Sometimes it happens, as in a very curious case recorded by Récamier, that the aura will disappear from a place, and reappear in another; it will be well to pursue it thither, and apply ligatures in the new place.

3. If ligatures fail, this is no reason for despairing of other means having the same object. The nerve animating either the part of the skin from which originates the aura, or the muscle or muscles which are the first convulsed, must be laid bare, and sulphuric ether thrown upon it. This might, perhaps, be sufficient to cure the affection; if it is not, then the nerve must be divided.*

* We proposed, many years ago, to employ ether instead of the section of the nerves, in traumatic tetanus; this simple treatment will prove more useful for tetanus than for epilepsy.

4. The amputation of a limb for epilepsy is a barbarous act, the section of the nerves being all that is necessary.

5. Sometimes blisters, setons, caustics, &c., in the neighborhood of a part which is the origin of an aura, may be sufficient to cure, but these means have not the same efficacy as the application of a red-hot iron.

6. The best means of treating epilepsy seem to consist in the application of a series of moxas along the spine, and particularly the nape of the neck.

7. The nutrition of the nervous centres may be modified, and thereby epilepsy be cured, principally by the medicines which act on the bloodvessels, such as strychnia, but particularly by those which determine contractions in these vessels, such as atropia, ergot of rye, &c.

8. Trepanning, in cases where a blow on the head or some other circumstance seems to indicate it, ought not to be resorted to until cauterization and other means of producing a modification of the conditions of the skin of the head have failed.

9. Cauterization of the mucous membrane of the larynx, which has been successful in some cases in which there was considerable laryngismus, is an excellent means, not only of diminishing or preventing the spasm of the larynx, but as a mode of producing a modification in the nutrition of the medulla oblongata.

10. As a means of treatment too much neglected, we will point out the possibility of the transformation of epilepsy into intermittent fever, which has been proved by the important facts observed by Dr. Selade, by Dumas, &c. The frequent passage of an intermittent fever into epilepsy, and the facts which show that the nerves of the bloodvessels are excited in the nervous centres in fever and ague (the galvanization of the cervical sympathetic nerve produces the effects of this fever, viz: *cold*, soon followed by *warmth and perspiration*,) show also that there are great analogies between epilepsy and intermittent fever. So it is as regards the efficacy of ligatures in both diseases. That intermittent fever is an affection of the nervous system is proved by a curious case of fracture of the spine, in which the parts paralyzed remained in their normal state, while the rest of the body had all the phenomena of a paroxysm of fever and ague. From these facts and many others, we think it would be of the utmost importance to try to have fever and ague generated in epileptics, as a means of cure of epilepsy.

11. We will merely add, that hygienic means are as important as the treatment, and that sleeplessness ought to be as much combated as the disease itself.

As regards the treatment of the fits, we cannot insist too much upon the prevention or diminution of asphyxia, as it seems certain that the circulation of black blood in the nervous centres prepares for the production of future fits. For this object, the best means are, 1st, dashing very cold water on the face; 2d, the inhalation of chloroform.

SELECTIONS.

Syphilization in Norway. By DR. LAUDER LINDSAY.

[From an article in the November number of the *Edinburgh Journal*, all of which is interesting and of value, we extract the following, it being all for which we can make room.—EDS. MONTHLY.]

What, then, is this syphilization—what this immunity, of which we have heard so much? When a patient laboring under constitutional syphilis—as Gunild Marie Syversdatter—is made the subject of a protracted series of inoculations, with matter taken from chancres or primary sores on the same or on different persons, or both, a period arrives when the system refuses further to acknowledge the influence of the syphilitic poison thus introduced; the inoculations are followed by no pustules, or by abortive pustules; he or she is said, or supposed, to be syphilis-proof—*syphilized** or *immune*. The terms *syphilization* and *immunity* were introduced by the French school of observers—by Turenne and Ricord. They are, perhaps, open to grave objections, and they have been the theme of endless and most unsatisfactory discussion. It is, however, comparatively immaterial what terms are used, provided we know precisely the condition or thing they are intended to represent. After having long confidently asserted and re-asserted the fact of absolute immunity as the result of syphilization, and having thus raised up against his views most violent and powerful opposition, Professor Boeck, very properly I think, says, within the last few weeks, “I will not engage in any strife as to the word *immunity*; I would only insist on this, that the body is brought into a new and healthier condition by these inoculations.”† Two years ago he writes, “Dans tous les cas où il m’a été possible de continuer les inoculations sans interruption, j’ai obtenu l’*immunité* contre le virus syphilitique. J’ai donc obtenu l’état que M. Auzias-Turenne a nommé *syphilisation*. C’est là un fait hors de toute contestation et que chacun peut vérifier. Il est impossible dans les sciences d’en constater plus évident.”‡ Professor Boeck, then, believes, or did believe, most firmly in *absolute immunity* resulting from syphilization. He affirms that he has inoculated his immune patients with pus from a great variety of chancres, and taken from different individuals, but without effect. He confesses to having had three relapses out of 100 cases; a very small and favorable proportion, as he observes, and not sufficient to overthrow the general facts or principles of syphilization. Professor Faye, on the other hand, denies that such a state exists as absolute or permanent immunity; and he affirms that he has produced, or seen produced, distinct effects in so-called immune patients, by

* Lest there should be any doubt as to the signification of the terms *syphilized* and *syphilized*, I may state here that the former word is used to represent the state of a person whose constitution is pervaded by the poison of syphilis *naturally communicated* (as the result of impure connection), while the latter indicates the condition of him whose system has been, in addition, *artificially saturated* with the syphilitic virus (by chancre-inoculations, as described in the case of Syversdatter).

† Letter in *Medical Times*, *ol. cit.*, p. 305.

‡ *Samling af Jagttagelser*, etc., *ol. cit.*, p. 14.

inoculating more deeply, by prolonged contact of the virus, and by using pus from the chancres of different individuals. He goes the length of admitting that there may be a temporary immunity of the skin, on which the inoculation-pustules have acted like a series of counter-irritants, but he distinguishes between "*en temporær Hudimmunitet og en Organismeimmunitet.*" It has been further supposed, that there may be an immunity so far as regards *one* kind of syphilitic matter—that, for instance, taken from the chancre of a single individual; an immunity for *every* kind of syphilitic matter, and so on. But here speculation takes the place of fact. Let us, therefore, *revenons à nos moutons*. The *duration* of immunity cannot yet be determined. Professor Boeck's experiments have now gone on for five years; but this is not a sufficiently long period to enable him satisfactorily to solve a question of such difficulty and importance. It is quite possible, as Professor Faye suggests, that the immunity, granting it to exist at all, is only temporary; that, after the lapse of a few months or years, as the case may be, the system again becomes susceptible of the influence of the syphilitic poison; that the patient again contracts syphilis, it may be in the same town or in a different town or country; and that, in fact, syphilization does not really protect the constitution against syphilis, as vaccination does against variola. All this may be, but we have yet to wait for the proof thereof. It does not appear to be necessary, in all cases, for the treatment of syphilitic symptoms, that perfect immunity be established; that is to say, all the syphilitic phenomena may disappear, and the patient may seem quite cured, before the inoculation-pustules become abortive—before he is thoroughly syphilized. "I am therefore convinced," says Professor Boeck, "that the few small pustules which we produce with a fresh virus, and which lead to no characteristic ulcers, cannot be regarded as proofs of the cure not being completed."* With a view, however, to the permanence of the cure, it is recommended to push syphilization to the extent of complete immunity, especially in cases where the patient has previously undergone mercurial treatment. He has not succeeded in producing immunity in any case by the inoculation of one kind of matter only; he has invariably been obliged subsequently to employ pus taken from the chancres of two or more individuals. But he mentions three patients as cured of syphilitic symptoms by the inoculation of one kind of matter only—where immunity was not produced. None of these cases have relapsed; two of them left hospital more than two years ago, the third twenty-two months ago.

The duration of treatment, as well as the number of inoculations or chancres necessary for the production of immunity, or for the cure of syphilitic affections, vary greatly in different cases. We have already seen that the treatment in Syversdatter extended over a year. This, however, was an exceptional case, and, moreover, one of Professor Boeck's earlier cases. Subsequent experience has enabled him to syphilize patients, in a large majority of cases, in six months, and

* *Medical Times, ol. cit.*, p. 305.

in many cases in three months. Latterly, instead of taking the inoculation-matter always from the last pustules produced, until they became abortive, he has taken pus from the earlier pustules, and also from the chancres of several different individuals; by thus using the most powerful virus, he has succeeded in abridging the duration of the treatment in a material degree. In this way he cures favorable cases in three months; that is, patients who have not been previously mercurialized, who have good constitutions, and in whom the syphilitic symptoms are not of long-standing. In the first series of his experiments, he used exclusively matter from a single chancre contracted in England. In his first two cases, syphilization lasted rather more than six months; the first patient had 222 chancres, the second 290. In the third and fourth cases, matter being taken from the chancres of the two first at the fourth month of syphilization, immunity was established at the end of three months; the third patient having had 133 chancres, and the fourth 91. The fifth patient, whose inoculations were begun a month later than those of the third and fourth cases, and with the same pus, was immune at the end of two months, having had 71 chancres. Let us now see to what extent the duration of treatment and the number of chancres were modified, according as patients had or had not been subjected to previous mercurial treatment, or were laboring under simple and recent, or inveterate forms of the disease. In eight of his syphilized cases, where no mercury or other anti-syphilitics had been previously used, the average duration of treatment was from five months to twenty-two days, and the mean number of inoculations 320. In six patients with secondary affections of the skin and mucous membranes, all of whom had previously used mercury and other remedies, the treatment averaged six months seven days, and the number of chancres 421. Three of these cases relapsed; the relapses not being severe, and exhibiting themselves soon after the first syphilization. In the second syphilization, the first patient had 108 chancres, the second 315, and the third 361. Three cases which had not relapsed at the end of fourteen months subsequent to discharge from hospital, showed a great susceptibility to the influence of the virus, in having a large number of chancres; the three others, which did relapse, had had in their first syphilization a very small number of chancres—that is to say, the first had had 127, the second 102, and the third 71. In a third group of cases—inveterate forms of syphilis—in all of which mercury had been previously used, the treatment averaged seven months ten days, and the number of chancres 542. It will thus be noticed that there is an increase in the duration of treatment, and in the number of inoculations, in inveterate cases, and especially those where mercury has been previously employed. Several inveterate cases that had been previously mercurialized were, however, *not cured* even by syphilization carried to immunity. It was necessary, in addition, to prescribe medicinal remedies, especially preparations of iodine. Prior to syphilization, however, these medicines had not only failed, but had aggravated the disease. One patient, who had syphilitic affections of the bones, had

been treated five months thirteen days, and had had 346 chancres, without syphilization producing apparently the slightest effect on his disease. Professor Boeck regards these as exceptional cases, and not adverse to his views regarding the efficacy of syphilization: he endeavors to explain away the facts by ingenious theories, but the facts remain! In cases of subsequent syphilizations in consequence of relapses, as a general rule, the number of inoculations requisite to produce immunity [?], or to cure the existing syphilitic affections, gradually diminishes; but there were exceptions to this rule, not admitting of any very obvious explanation. Professor Boeck cites the following cases:

Anne Knudsdatter had in her first syphilization 290 chancres, in her second 242, and in her third 41.

Olaus Andreassen had in his first syphilization 353 chancres, in second 269, in third 53.

Ole Simonsen had in his first 286, and in his second 83.

Johannes Andreassen had in his first 102, and in the second 108.

Morten Pedersen had in his first 127, and in the second 361.

Marte Randine Christiansdatter had in her first 80, in her second 267, and in her third 73 chancres.*

The patients whom I saw in Christiania under treatment, had the arms and thighs covered with inoculation-pustules, the number varying from some dozens to some hundreds. This aspect of the process of syphilization—the appearance of the limbs—is at first sight most repulsive and disgusting; but it must be borne in mind that all this is concealed by the clothing, that the process is attended or followed by no bad symptoms of any kind, and that the general health of the patient is steadily improving, while the syphilitic symptoms are slowly, but surely disappearing.

Some syphilidologists hold the opinion that there are different kinds of syphilitic matter; while others, and among them Professor Faye, deny that there is good ground for such a doctrine. The subject is chiefly of a speculative nature; on it I cannot here enter. Regarding the subject of differences in the intensity of the syphilitic virus, there is less contrariety of opinion. Professor Boeck holds it as incontestably proved that such differences do exist, and in this opinion he is supported by Sperino. It has been found in Christiania that, after pus from chancres contracted in that city had failed to produce any effects, marked and immediate results were obtained with matter from Stockholm; that Hamburg matter, again, was more powerful than that of Stockholm; and that a still greater intensity resided in syphilitic virus from *London*! This is a matter of no little importance, inasmuch as it would appear, within certain limits, that the rapidity of the cure, or in other words, the rapidity of syphilization, is in proportion to the intensity of the virus employed. While the pus of a London chancre was inoculable through not more than fourteen generations of pustules, that of a Hamburg chancre was found to pass through eighty-three generations in one patient, fifty-eight in

* *Discussion in det norske medicinske Selskab, etc., ol. cit., p. 16.*

a second, and fifty-one in a third. The pus of some chancres does not seem to be inoculable, that is, it does not produce specific, well-formed pustules. It would further appear as if there were some connection between inoculable chancres and suppurating bubos. Professor Boeck states that after the period of his first experiments with matter from an English chancre, he did not meet with an inoculable primary chancre till July, 1853, when a sailor arrived from Hamburg with a non-indurated chancre. During the two following months there occurred in Christiania several inoculable chancres, both in strangers and natives. The majority of these chancres, about ten in number, were accompanied by suppurating bubos. None of the latter had been seen since the autumn of 1852, and they had manifested themselves only in those who had inoculable chancres. During the following winter, and until June, 1854, there were no more inoculable chancres nor suppurating bubos; apparently as if they were periodically imported from abroad! But not only are there differences in the intensity of the virus in individuals from different countries, but also in different individuals in the same town or country. This fact is the basis of daily practice in syphilizing. When the chancre-matter of one individual fails in its effect, that from another is at once taken, and when that in its turn fails, that from a third, and so on. It has been found that pus from an apparently simple chancre in one individual, has produced a phagedænic chancre in the person inoculated; the effect being apparently attributable to the nature or intensity of the matter employed, rather than to the constitution of the person operated upon, though I cannot divest myself of the conviction that the latter has much to do with the explanation of such phenomena. It sometimes happens that the virus from the same chancre acts feebly for a time upon a certain individual; suddenly it produces large or well-marked pustules; then, all at once, it generates abortive pustules, without immunity being produced. The researches of Boeck and others do not seem satisfactorily to explain such irregularities; doubtless there are "faults on both sides." It is extremely probable that the force of the virus varies with the stage of maturation of the chancre, being greatest when the chancre is mature or advancing to maturity, and gradually becoming enfeebled in its later stages. It has been found that dilution of the syphilitic matter with water weakened or diminished the syphilizing power of that matter. These differences in the intensity of the syphilitic virus go far towards reconciling differences in opinion regarding the inoculability or syphilizing power of syphilitic pus. Fricke of Hamburg, for instance, has laid it down that syphilitic matter loses its force after a series of eight consecutive inoculations, while Ricord, on the contrary, maintains that an individual may be indefinitely inoculated with the same matter, and with the same efficiency. This subject has, moreover, an important bearing on that of absolute immunity, for it may happen, and probably will repeatedly happen, that after a person has been pronounced immune—all the matter at the disposal of the operator, in the same society, town, or country, having failed to pro-

duce any specific effect—syphilitic pus may be procured from other individuals, towns, or countries, capable of reproducing inoculation-pustules. And it is at present, perhaps, impossible to say to what extent such a process might be carried! The subject of the regeneration or intensification of the virus, either by prolonged inoculation in the same individual, or by transmitting it through the system of different individuals, is one not only of great physiological interest, but of great practical importance. The intensification of the virus is illustrated by such a case as the following: A patient entered the Rigshospital with an indurated chancre of two months' standing, not yet quite cicatrized, and with all the appearances of commencing constitutional syphilis. He was inoculated with matter taken from his own chancre; only abortive pustules were produced. He was inoculated every three days with such pus as could be obtained from the pustules always last produced. After the sixteenth generation of pustules, small ulcers made their appearance, and subsequently, the force of the pus becoming greater and greater, well-marked chancres were developed. Turenne long ago showed that the matter of chancres which produced only abortive pustules in the syphilized, gave characteristic ulcers in the non-syphilized. A knowledge of this fact enabled Boeck to continue his inoculations when he could obtain no other inoculable matter! It would appear, however, that after syphilitic matter has attained a certain degree of feebleness, it cannot thus, or otherwise, be regenerated, or have its force intensified. It has also been proved curiously that syphilitic ulcers may reproduce the disease by coitus without being inoculable. With matter from an indurated chancre on the penis of a man in Christiania, 60 inoculations were made on eight different individuals without success, yet this man had, in the natural way, infected other persons.

The *réceptivité* of individuals—in other words, their susceptibility to the influence of the syphilitic virus—differs remarkably. In connection with this subject, it is advisable, or necessary, here to consider the circumstances favorable and unfavorable to the process of syphilization. Some individuals are very easily and severely affected by the syphilitic virus introduced by way of inoculation, having a large number of well-marked, it may be phagedænic or confluent, chancres; in others the effects are insignificant, and the number of chancres small; while in others, again, no effect whatever can be produced. Much is due, in such cases, to the constitution of the individual, but idiosyncrasy, co-existent disease, the nature of previous treatment, the intensity of the matter inoculated, the adjuncts to the process of syphilization, and similar circumstances, all exert a powerful influence in rendering the system susceptible, or the reverse, to the action of the syphilitic poison. In some systems, which are at first *refractory* to the influence of the inoculation-virus, the faults of the system on the one hand, or the want of intensity in the matter on the other, may be got over, as we have already seen, by repeating and prolonging the inoculations. As a general rule, patients who have been more than once syphilized, become less and less susceptible of the action

of the virus. The same holds good in regard to the different stages of the same syphilization; the system gradually becoming habituated, as it were, to the action of the poison—saturated, some syphilidologists say, therewith, until it refuses to be further affected thereby. Hence, during the process of syphilization, and in proportion as it advances towards completion, the artificial chancres gradually decrease in size. Generally speaking, it is only the first twenty or thirty pustules which are of any considerable size; those which follow rapidly decrease in magnitude. The inoculation-chancres are, therefore, really not so formidable as they at first sight appear. There seems to me to be a good deal of confusion in the writings of syphilidologists regarding the respective shares of differences in the intensity of the virus on the one hand, and variations in the *réceptivité* of individuals on the other, in the production of this phenomenon—the gradual diminution in the size of the inoculation-pustules or chancres. Probably it is impossible accurately to determine this in every case, or in the generality of cases. But there are exceptions to this rule of progressive diminution in size; irregularities occasionally occur, the majority of which Professor Boeck attributes to previous mercurialization. Patients who have previously taken mercury, or other anti-venereal remedies, are said to be less susceptible of the effects of inoculation; both the general and local action of the virus introduced is materially modified. “*Il est prouvé pour moi que,*” says Professor Boeck, “*de même que tous les individus n’ont pas la même susceptibilité pour le virus syphilitique en général, de même aussi ils n’ont pas tous la même susceptibilité pour chaque espèce de virus.*”* He further states that a return of syphilitic symptoms subsequently to syphilization, is accompanied, very conveniently, by a corresponding return of *réceptivité*!

I have already casually touched on some of the theories of, or speculations regarding, the *modus operandi* of syphilization. I cannot here do more than merely enumerate some of them. Boeck apparently regards the good effects of the process as resulting from an isopathic action of the virus—an action on the *similia similibus* principle—the same poison which produced the disease being supposed also to destroy it! Faye speaks of syphilization—which term he proposes to banish—as a “depurative suppuration,” and as a “curative chancre-inoculation.” Others look upon the system as saturated with the syphilitic poison until it cannot possibly receive more; or they speak of a dynamo-organic action, a special impression exerted or made on the nervous system; while others, again, regard the *modus operandi* as a revulsive action, depending on a system of cutaneous counter-irritation.

It is satisfactory to find that Professor Boeck does not advocate syphilization as a *prophylactic*; it appears to be admitted in every country, and by almost every syphilidologist, that such a proceeding is repugnant to common morality and utterly inadmissible. True, some enthusiastic French experimenters have put the matter to the

test; but their practice is not at all likely to be generally followed, seeing that imprisonment and public opprobrium are among the results that have been already attained. "Je partage l'opinion," says Boeck, "de tous les auteurs qui ont écrit sur ce sujet, et je pense qu'elle ne doit pas être employée comme *prophylactique*. Je présume que l'inventeur lui-même de la syphilisation est actuellement de cet avis."*

Professor Boeck, and, I believe, Sperino also, restrict syphilization as a curative method to the treatment of constitutional syphilis. He does not consider himself justified in having recourse to it for primary sores alone; for, he argues, it does not follow that a patient with a primary sore becomes the subject of secondary symptoms—of constitutional syphilis. "I have assuredly," says he, "no authority to introduce into the organism of a patient a poison which is not already there.† In such cases, therefore, he gives the patient the benefit of the doubt, and does not syphilize until secondary symptoms show themselves. In constitutional syphilis, where the organism is already pervaded by the virus, he holds that he is introducing no new poison, by inoculation with chancre-matter. He doubts the accuracy of Ricord's opinions, that a non-indurated chancre is never followed by constitutional symptoms, and that induration is the first phenomenon of constitutional syphilis. He believes that exceptions occur to these general rules, which, however, he looks upon as to such an extent true, that he is willing to accept them as the basis of practice in syphilization. He has had occasion to suspend or discard syphilization in a prostitute who had a choreiform nervous disorder; in another who relapsed, and who, three years previously to syphilization, had had pulmonary tubercles; and in a third case, that of a cachectic patient, in whom erysipelas accompanied by smart fever was the result of the process. Doubtless there will be found to be other contra-indications to syphilization in particular cases, should the experiments of Boeck and others be multiplied and varied. Professor Boeck is at great pains to point out the extent to which previous mercurial treatment modifies the results of syphilization. He asserts that it is impossible to ascertain the precise effects of syphilization in mercurialized patients; hence he divides his patients into two classes, viz., the patients who have had, and those who have not had, previously, mercury or other anti-syphilitic remedies. He further enters somewhat in detail on the respective merits and advantages of mercurialization and syphilization in the treatment of constitutional syphilis, giving the whole weight of his experience in favor of the latter. He does not use a particle of mercury in the treatment of his patients; nor does he subject them to any medicinal or dietetic treatment whatever, unless in exceptional and inveterate cases which refuse to yield to syphilization alone, but which readily succumb to syphilization associated with preparations of iodine. Mercurialization, it appears, has much to do, sometimes everything to do, with relapses after syphilization; for a long period Professor Boeck

* *Sambling af Jagttagelser*, etc., p. 14.

† Letter in *Medical Times*, *ol. cit.*, p. 305.

attributed all his relapses to previous mercurial treatment; but he has now had at least three relapses in patients who had taken no mercury. The latter cases, as I have already stated, he endeavors to explain very ingeniously, but not equally satisfactorily. The statistics of the Christiania Rigshospital for the last thirty years, show 27 per cent. of relapses in cases of constitutional syphilis treated by mercury in the ordinary way; whereas Professor Boeck has only had three relapses out of 100 cases treated by syphilization, where mercury was not previously employed. He makes prominent the fact that the effects of mercurialization are often worse than the disease it is intended to cure, giving rise occasionally to affections of the bones, paralysis, etc. He makes the most, in fact, of this feature of mercurialization, and makes the most, moreover, of his favorite syphilization. I cannot withhold the expression of my strong conviction—but it is merely an impression, and an *impression* is of no value as compared with *facts*—that many of the cases which Professor Boeck showed me in Christiania, as under treatment by syphilization, would have recovered equally rapidly and satisfactorily either by mild mercurial treatment; by the use of iodides, or other gentle alteratives; by dietetic treatment, or by no treatment at all, further than cleanliness, regularity in habits, &c. With regard to the immunity produced by syphilization—the non-liability to be afterwards affected with syphilis—until this is proved by a longer and more varied experience, I confess that I must rank with the sceptics, having seen or learned sufficient to lead me to entertain, with Professor Faye, strong doubts as to the existence of such a phenomenon as absolute immunity! Professor Boeck takes care to remind us that a person treated by mercury can never be considered as permanently cured; relapses may occur after a very long interval, and he cites one case, on the authority of Ricord, where the relapse took place forty years after treatment. May not this equally occur after syphilization? At present we have no data to illuminate this dark feature of the subject; only two or three years have elapsed since the earlier of Professor Boeck's experiments were made, and this period is manifestly insufficient for the determination of a point of such difficulty. Again, the Professor appears to me to tread upon dangerous ground, when he asks how often, after an apparent cure of constitutional syphilis by the use of ordinary medicinal remedies, such as mercury, iodine, sarsaparilla, &c., do we recognize in the sad heritage of the offspring the fact that syphilis has still lurked in the system of the parent? There is, as yet, no evidence to prove that the same thing does not also occur after syphilization. Granting that in previously mercurialized cases the results are generally more or less unsatisfactory, the progress of the syphilization irregular, the duration of the treatment and the number of chancres increased, the inoculation-pustules frequently becoming phagedænic, spreading or confluent ulcers, and the dangers of relapse considerable, he still holds that syphilization is the best treatment. Nor does he regard inveteracy of type or character as a contra-indication to syphilization, though he acknowledges the necessity of employing medicinal adjuncts to this

process, such as preparations of iodine. He asserts, that whereas in many or most inveterate cases of constitutional syphilis, neither iodides alone nor syphilization alone will effect a cure, yet, when conjoined, they will either do so or produce a greater degree of amelioration than any other mode of treatment. But not only does syphilization, according to Professor Boeck, effectually and permanently cure constitutional syphilis, but it also cures rapidly and satisfactorily any intercurrent affections that may arise. "Even iritis," says he, "I have come to regard without apprehension; for, like other intercurrent symptoms, it spontaneously disappears during the syphilization, without requiring any special treatment."* Not only this, but syphilization has been recently applied to the cure of other diseases than syphilis. Cancer and various skin affections are among the cases in which it has thus been tried, but the data accumulated are as yet very meagre, and quite insufficient for the purpose of drawing general conclusions or laying down general laws.

So far from syphilization producing any bad effects on the general health of the individuals operated on, the syphilized bear all the external attributes of health and vigor, and they feel as well as they look. Patients who suffered from *malaise* of divers sorts, rheumatic pains, etc., prior to syphilization, declare that all these symptoms disappeared during the earlier months of treatment, and have not recurred. A period of two or three years has elapsed since the discharge from hospital of many of these cases. All these who have never been mercurialized continue in perfect health; some of those who have been mercurialized have been ill and emaciated, but in them even the general health has been improved, and some of them show a considerable degree of embonpoint. Professor Boeck's statements would lead to the conclusion that while mercurialization is a weakening, deteriorating process, syphilization is a strengthening, ameliorating one! Though it does not yet appear that syphilization is attended or followed by bad results of any kind, it is well to bear in mind, that subsequent experience may prove that the process is not altogether so innocent or ameliorating as it now appears. Certain it is, that the process does not interfere in any way with ordinary avocations, pleasures, habits, or diet. The patients eat, drink, and sleep well, they are not a day confined to the house, and their nearest relatives need not know that they are laboring under disease, or undergoing treatment therefor.

It may not be amiss here to state what I myself saw in Professor Boeck's consulting-room. The presentees were private patients, belonging to the middle ranks of life. They were of all ages, but chiefly young men in the prime of life. They left their desks or counting-houses for a few minutes, to run up to the Professor's consulting-room—about a dozen inoculations were made, and they went "on their way rejoicing," with the admonition to present themselves in two or three days and have the process repeated. I can vouch for the fact, that the patients themselves had full confidence in the treatment—an intelligent confidence, for I am speaking of educated persons, several

* Letter in *Medical Times*, *ol. cit.*, p. 305.

of whom willingly recited the history of their cases. They appeared in excellent physical condition and in the best of spirits: some of them brought friends and companions to undergo the same process, which, in their case, had proved so beneficial. In the majority of cases there was nothing to lead the casual observer to infer the existence either of syphilis or syphilization, until the patient stripped himself. Then I must confess, the limbs, covered with pustules or chancres of every size and hue, presented anything but a comely appearance. In some patients the limbs were covered with simple pustules, having a limited red base; in others, with deep-ragged ulcers, having an abundant foetid discharge, and an angry purple base. The latter cases, I was informed, were those in which mercury had been previously employed by other practitioners. I saw infants as well as adults inoculated: immunity, it appears, is often producible in them by comparatively few inoculations, and very small chancres. The Professor was particularly careful in his selection of cases with primary chancres presenting themselves for the first time; his reason for this I have already explained. Those in which he operated with greatest confidence, promising a cure in three months, were patients having good constitutions, laboring under secondary symptoms, and who had not been previously under treatment of any kind. When such a case presented itself, he took a small quantity of pus, on the point of a common lancet, from a primary chancre of the same individual, or from a primary sore, or the inoculation-pustules of another individual; this he inserted, by three punctures, as in vaccination, in one of the thighs. Some fresh matter he inserted, in a similar way, in the opposite thigh; and he subsequently inoculated each of the arms, giving the lancet a twist in the punctures, so as to ensure the insertion of the matter. He thus made a dozen punctures, each series or group being deltoid in form. The patient was then—without even bandaging—simply dismissed, with the injunction to return in three or four days. By this time each of the punctures had given rise to a pustule with a red, inflamed base. One of these—selecting always the best-formed pustules—he broke up with the lancet, withdrew a little of the pus, and made three inoculations, immediately below the former ones, in each of the arms and thighs. This process was to be repeated at intervals of two or three days, for weeks or months, so long as such pustules continued to be developed—generally taking the matter from the last formed pustules. Whenever the matter of the latest pustules became weak—when it produced, on inoculation, only abortive pustules, or no results at all, or even before it became so weak as this—he took matter from the earliest and largest pustules. When this also began to fail in consequence of the intensity of its virus being too greatly diminished, then he took matter either from the primary sores or inoculation-chancres of different individuals, continuing thus to change the inoculation-matter until the system appeared to assert or proclaim its immunity, by refusing to develop any further pustules. These inoculations were made “regardless of any new symptoms that developed themselves.” The average number of inoculations in the patients I saw must have

been at least 200 or 300, though I did not take the precaution to count them.

The question, Will syphilization, as a curative method in constitutional syphilis—for its application as a prophylactic is obviously out of the question—ever be admitted into, or become general in practice in this country?—I must leave to the medical profession of Great Britain to decide. The free discussion of the question cannot fail to elicit many important facts, whatever be the results in regard to our practice; and it is from such a conviction that I have ventured to make public the very interesting results attained in Norway. By way of conclusion, and by way of *résumé*, I may be permitted to append the following declarations made by Professor Boeck, quite recently, while visiting Scotland: “I have indeed,” says he, “the most sincere conviction and proof,

- “1. That there is no fact more certain in medical and surgical therapeutics, than the fact of the curability of constitutional syphilis by syphilization.
- “2. That this method of curing constitutional syphilis is infinitely more certain than the methods of cure by mercury, iodine, hunger-cure, or any other means yet proposed.
- “3. That it is free from the dangers attending the mercurial treatment; and,
- “4. That relapses are more rare after this than after any other known method of treating secondary or tertiary syphilis.”*

I cannot take leave of this subject more appropriately, than by quoting a few brief passages from Professor Boeck’s work on *Skin Diseases*, upon the pages whereof I have already so largely drawn:

“On a rejeté la syphilisation avant de la connaître. Cependant dans les sciences naturelles il n’est plus possible de rejeter une chose par cette seule raison que nous ne la comprenons pas aussitôt. . . . Ayant fait tous les jours pendant trois années les expériences les plus consciencieuses, j’ai acquis la conviction que la syphilisation n’est pas une utopie; elle mérite, au contraire, de fixer toute l’attention du médecin.† . . . La syphilisation ouvre donc à la sciences un nouvel horizon, une nouvelle sphère d’investigation, que nous devons explorer, guidés par l’analogie. La guérison de la syphilis par la syphilisation n’est, d’après moi, qu’un résultat subordonné par son importance physiologique aux conséquences qu’elle aura pour la pathologie générale.‡ . . . Je ferai le vœu, en terminant, que la syphilisation soit étudiée avec tranquillité et avec exactitude. Elle doit être étudiée non pas seulement comme méthode curative de la syphilis constitutionnelle, mais surtout comme devant éclairer l’étude de la syphilis en général, de la pathologie générale, et de la physiologie.”§

* *Medical Times*, Sept. 19, 1857, p. 305, *ol. cit.*

† *Samling af Jagttagelser*, p. 9.

‡ *Ib.*, p. 15.

§ One of the most legitimate, and at the same time hopeful, departments of inquiry connected with this subject, and which does not appear to have been at all entered upon by Professor Boeck, is that of experimentation upon the lower animals. Monkeys have already been inoculated with syphilis in Paris by Turenne; and there is every reason to believe that it will be found, when researches come to be made on this subject, that the lower animals can contract a variety of human diseases by inoculation, by contagion, or otherwise. [*Vide* my “Suggestions for Observations on the Influence of Cholera and other Epidemic Poisons on the Lower Animals,” *Edinburgh Medical Journal*, July 1857, p. 33, and notes on “Cattle Murrain in some of its Aspects,” *Lancet*, May 16, 1857, p. 496. Illustrative cases may also be consulted in *Annalen des*

On Obstinate Menorrhagia. By HENRY SAVAGE, M.D., London, F.R.C.S., Eng., Senior Physician to Samaritan Hospital for Women.

Uterine hæmorrhage, unconnected with pregnancy or parturition, occasionally assumes a rebellious form not to be understood by the ordinary doctrinal explanations of its pathology. Menorrhagias (or rather metrorrhagias) are said to be active, passive, functional, or symptomatic, according as they are considered to depend on general vascular derangement, on diathesis, or on morbid states of the womb itself. The remedies most useful, are such as correspond with these views. Thus cooling purgatives, drastics, antimonials, bleeding, astringents, have each had their advocates. The same may be said of the series of special anti-menorrhagics—bitartrate of potash, oxide of silver, Indian hemp, digitalis, Cayenne pepper, cinnamon, &c., and of the removal from the womb itself of some tangible exciting cause, as polypus in one or other of its innumerable varieties.

The majority of menorrhagias yield to one or other of the above remedies; but some do not. The two following cases, selected from a large number which have come under my notice at the Samaritan Hospital during the last four years, in my opinion, are instructive examples of this intractable class:

CASE I.—A woman aged thirty-six, married, came to the hospital two years and a half ago, having the ordinary appearance of females subject to loss of blood. She was extremely pale, she said she was weak, felt low-spirited, and had at last become quite unequal to her domestic duties, which were far from laborious; she had but two children, and had experienced no privation; she never noticed any irregularity in the catamenial function till six months after her last confinement, having always felt well till then. On the reappearance of the catamenia at that period, she lost a great deal of blood. This discharge lasted for three weeks. After a week's interval, it again appeared, increasing until about the right catamenial period, according to her calculation, and subsiding gradually to the interval of a week as before, and so continuing ever since, reversing, as it were, the ordinary rule, she having but one week's interval instead of three. A letter from her medical attendant states, that this has been going on for eight months. He had tried all the usual remedies without success. A polypus was suspected, but not found. I examined her carefully several times, failing also to find anything more than slight enlargement of the uterus, which had a soft feel, with the os perhaps slightly more open than common. Cold hip-baths, oxide of silver, Indian hemp, &c., were tried for a month. They made but a temporary impression. The interval of cessation extended to a fortnight; but the total amount of loss was still far too great. The uterus was now injected daily with a strong solution of tannin and alum; from

Charité Krankenhauses, 8 Jahrg., Heft 17, "On the Existence of Herpes in Domestic Animals, and its Communication to Man," by Dr. Von Bärensprung; Hering's *Repertorium der Thier Heilkunde*, Band 1, 1840; Gurlt and Hertwig, *Magazin für die Gesammte Thier Heilkunde*, Band 7, 1841; Letenneur, "Reflexions sur l'Herpès tonsurant, 1852," *Brit. and For. Medico-Chirurg. Review*, July 1857, p. 263.

four to eight ounces of this was thrown into the cavity of the womb in a continuous and rather forcible stream through a full-sized male catheter, cut off at the end—the os having been previously well dilated by a sponge-tent, to insure free retrogression of the fluid. Internal remedies were discontinued. The hæmorrhage now rapidly subsided. At the end of a fortnight it had nearly disappeared. At the end of another month I yielded to her anxiety to return home, and she left the hospital much improved in health and appearance, but the discharge was not quite gone.

The injection from first to last had caused her no pain whatever. She mentioned occasionally only a slight sensation of “drawing and coldness,” but not by way of complaint.

In about four months she again came to the hospital. The hæmorrhage had begun to increase about two months after she left it. She said she was about the same as at first, and her look corresponded with the statement. Another selection of anti-menorrhagics was tried; they failed as before. Recourse was again had to the tannin and alum injection (tannin, two drachms; alum, four drachms; water, six ounces). The catamenial interval again quickly extended to a fortnight, and once to three weeks. She remained in the hospital three months. The decrease in quantity seemed to justify my yielding once more to her wish to go home, and agreeing in her supposition that the change would complete the cure. However, in about four months she made her appearance “as bad as ever,” so I determined on the following plan:

A careful examination was again gone through. The uterus felt fuller and softer, and the os more open than natural. The finger could be introduced a little way into the os, but no peculiar soft, pulpy, or vegetating unevenness could be distinguished. The uterine sound showed that the cavity was larger than natural; in fact, the instrument could be easily turned on its curve without much displacement of the uterus. No hitch or obstruction whatever indicated a polypoid excrescence of any magnitude. The sound, when withdrawn, was covered with blood, which seemed to flow more abundantly in consequence of the disturbance caused by the uterine sound; but this increase lasted only half an hour after the examination was concluded. Not the least pain was caused by any part of the examination.

A large sponge-tent, two inches and a half long, was introduced to its whole length. A still larger was employed the day following. On the third day the os uteri would easily admit two fingers. The patient was then laid upon her back, the legs raised, the hips well supported; in short, placed as in the operation of lithotomy. With Recamier's curette (the larger end of which passed into the cavity of the womb with the utmost facility) I proceeded to scrape with force enough to remove any possible vegetation or fungosity, which I considered it a fair presumption to regard as a very probable cause of hæmorrhage so inveterate. The operation lasted about six minutes. In that time (the curette being of the largest size) I believe I had completely gone over the entire internal surface of the uterus and its neck. Wherever I felt, through the instrument, a sensation as if it

was passing over a velvety surface, there I continued scraping until the surface gave the impression of being comparatively smooth and hard. The patient was asked frequently, if the operation gave her pain; but she said she felt none whatever. I constantly withdrew and examined the curette, expecting to see a large collection of vegetations or accumulations of the soft surface I seemed to be scraping off, but the amount altogether did not, by a third, cover the cavity of its spoon-shaped end; much more, however, of a jelly-like, white, tough, transparent mucus came away. The patient was put to bed. The hæmorrhage for the first half-hour slightly increased. It then began decidedly so to diminish that it was not considered necessary to resort to any of the means provided for the opposite contingency. The next day the hæmorrhage was still less, and I thought I could feel that the uterus was smaller. She had passed a good night, and said she felt better and was in no pain. With the view of more effectually destroying the polypoid vegetations, the idea of which the result of the operation seemed to me to confirm, I injected three drachms of the tincture of iodine, of the London Pharmacopœia, into the uterine cavity. The effect was almost magical; the hæmorrhage seemed to stop at once. The day following it was almost gone. Two injections of three drachms of the same tincture were used at intervals of three days. Beyond a sensation of warmth, the patient declared she felt nothing; and on this occasion she left the hospital six weeks after her admission. All discharge had ceased for three weeks previously. The womb was clearly much less in size, and the os had closed to its natural dimensions.

I met this patient accidentally in the street a few days ago, nine months after she last left the hospital. She assured me that, ever since the operation, her catamenial periods had been perfectly natural. She was walking briskly, and looked in excellent health.

CASE 2.—A woman, thirty-four years of age, thin, spare, pallid, nervous, and debilitated, came to the hospital a year ago, complaining of excessive loss of blood at the catamenial periods, which had lasted at least a fortnight at a time during the past two years. The complaint had come on after a miscarriage a year previously. The uterus could be felt soft, larger than natural, and the os open, but not sufficiently so to admit the finger. The os uteri was dilated by a succession of sponge-tents, but I thought in this case I would try the iodine injection alone. Accordingly, four ounces of a mixture of tincture of iodine and water (equal parts) was injected with some force, in the usual way, into the uterus. The nervous and excitable temperament of this patient, as I anticipated, betrayed some intolerance of such a proceeding. She complained of pain in both groins for some hours afterwards. The next day the hæmorrhage was greatly diminished. The same injection was repeated every third day for a fortnight. The uterus now began evidently to return to its right size, and the os to close. She left the hospital two months after her admission. Her health improved rapidly from the first use of the iodine injection.

In this case, most of the anti-menorrhagics best esteemed had been administered without any advantage.

The above two cases are types of a vast number of memorrhagias I have treated on a principle involving more or less the supposition that some unnatural condition of the lining membrane of the uterus existed. Injections as mere astringents were used, by Blundell amongst others, years ago. Dr. Locock's gouge, Recamier's curette, Jobert's uterine speculum, Simpson's looped scraper, recognize the same thing—viz., the possible existence of wonderfully small polypi as the real cause of dangerous uterine hæmorrhage; but I am not aware that iodine has ever yet been employed for the same object. Injections of the uterine cavity are regarded by the profession in general as full of danger, and I am not prepared to say they are not so, unless care be taken to secure an unobstructed escape for the fluid by previous ample artificial dilatation of the os and cervix uteri. With this proviso, I have never seen any ill effects from uterine injections; and of all the various solutions I have used and seen used for years past, I have never met with one so satisfactory and so free from objection as the tincture of iodine.

It is also worth while, I think, to direct attention to a point in the *rationale* of uterine hæmorrhage exemplified by the use of any means tending to empty the uterine cavity, or otherwise lead to a return to its healthy size and tone. In both the above cases, as well as in all the rest I have met with, the slow contraction of the uterus seemed to keep pace with the diminution of the discharge. I have often seen brought on unintentionally a smart metrorrhagia by the introduction of a sponge-tent of the smallest size, which only ceased on the removal of the tent.—*Lancet*, Dec. 5th, 1857.

The Escharotic Treatment of Cancer. By JAMES SYME, Esq., Prof. of Clinical Surgery in the University of Edinburgh.

The subject of cancer has been so mystified by the misrepresentations of unscrupulous adventurers, that any attempt to re-establish its treatment upon sound principles may seem a hopeless undertaking; but I nevertheless beg to offer the following observations, in the hope that they will still be of service where rapacity and credulity have not entirely superseded honesty and common sense. It is not surprising that the dread of cutting, and the bad success of operations too frequently performed under unfavorable circumstances, should have predisposed to the ready reception of any new proposal for the remedy of a disease so formidable; and, accordingly, the employment of variously prepared caustics for this purpose has, during the last twenty or thirty years, afforded a fruitful field for quackery without and also within the profession. For, whatever may be the sentiments or laws of medical corporations, I shall always hold, that the worst form of quackery is, not practising without a diploma, but using secret reme-

dies, and pandering, by false pretences, to the capricious folly of credulous patients. It could hardly, however, have been anticipated, that the medical officers of a metropolitan hospital would so far forget the dictates of professional honor, as not only to harbor in their institution a secret cancer curer, but, by continuing to do so month after month, sanction the delusion that he possessed some beneficial means of treatment unknown to their brethren. Yet the surgeons of the Middlesex Hospital have exposed themselves to this serious charge. They can hardly deny the former part of it; and with regard to the latter, must either plead guilty or profess belief that the juice of *Sanguinaria Canadensis* possesses more active powers than the gilding of a pill. In their anxiety to escape from the horns of this painful dilemma, they now admit that "the vegetable ingredient is practically inert," that the caustic is an old one, and that there is nothing new in the practice of their protégé except daily making incisions and stuffing the wounds with escharotic paste,—a proceeding utterly opposed to the established principles of surgery, and eminently calculated to produce the most disastrous consequences, but which, instead of indignantly condemning, they commend as deserving of general adoption, and as entitling its author to public gratitude. The hollow pretensions of secrecy having been thus endorsed and published with the authority of a metropolitan hospital, it is requisite for the protection of sufferers from cancer, that the principles of its proper treatment should, so far as possible, be no less extensively diffused.

It being admitted, by universal consent, that the various forms of disease comprehended under the titles of cancer and carcinoma are not remediable except through removal of the morbid part, the only room for question that remains in regard to their treatment is limited to the choice of means for this purpose. There can be no doubt that excision, if performed under chloroform, affords not only the most speedy and effectual, but also the least painful, mode of extirpating the disease, so far as its extent can be recognized by sensible characters. On the other hand, it is alleged that through the use of caustic a more lasting protection may be obtained against the danger of relapse; and if such were really the case, there could be no hesitation in preferring the latter means. But, unfortunately, from being chiefly used empirically, they are supported by evidence of a very questionable character. For, in the first place, patients who confide their treatment to irregular practitioners, are naturally unwilling to admit that they have received no benefit or suffered damage from venturing upon this course. They are, consequently, very ready to be persuaded that good has been done, and when the expectations thus excited prove to be fallacious, no less slow to confess their disappointment. The wonderful histories of cures, therefore, so frequently put in circulation on the ground of such sanguine anticipations, are seldom counteracted by a knowledge of the issue, however disastrous it may have been. Thus, an impudent quack—the Middlesex surgeons call him a "gentleman"—industriously distributed penny puffs, red, green, and yellow, of which the most prominent feature was an affidavit sworn before the Lord Provost of Glasgow, by a man who had been an out-

patient at the hospital here, under my care, that he was cured by the said quack, although he was not so, and died soon afterwards of the disease. Now, this poor creature doubtless believed the assurance of that respectable person, and probably signed his declaration from the amiable motive of leading fellow-sufferers in a right direction; but having taken this unwary step, could not retrace it, when taught by sad experience that he had been miserably deceived.

Then, again, there are so many diseased conditions apt to be regarded as incurable, although not really so, that the most careful discrimination is required to prevent their successful treatment from being erroneously assumed as ground for belief in the curability of cancer. But the empirical practitioner is neither able nor willing to make such distinctions, and so far from endeavoring to dismiss the unfounded apprehensions of a patient, will always be anxious to cherish and increase them, in order to enhance the value of his pretended services. Thus, if a tumor of the breast, supposed to be carcinomatous, should be a serous cyst requiring merely evacuation and irritation of the surface, or a fibrous growth removable without further disturbance of the gland, or a chronic abscess, or even nothing more than that simple engorgement and painful state so common in females whose health is out of order, the quack will not vary his practice, or scruple to make the unfortunate patient pass through all the horrors of a prolonged escharotic treatment. Indeed, I once saw a poor woman who had both of her breasts destroyed by caustic, although there was distinct evidence that neither of them had been at all diseased.

In regard to the comparative time, and danger of cutting and caustic, there can be no doubt that, so far as the first of these points is concerned, the former mode of relief is greatly preferable; while, as to the last one, there does not seem to be much difference between the two. Unless, therefore, it can be shown that the escharotic treatment is more complete and permanent in its effect than excision, it will be difficult to discover any good reason for abandoning the knife, or complicating it with the addition of caustic. The surgeons of the Middlesex Hospital have published an account of the cases treated under their inspection, which, although evidently drawn up with the desire of presenting a favorable view, may, of course, be regarded as an authentic statement, and not as the mere trumpeting of quackery. They here relate, that the process employed by their American coadjutor was to destroy the skin by nitric acid, then to make numerous incisions, and introduce chloride of zinc paste into the wounds, which were repeated daily for from two to seven weeks, until the object appeared to be accomplished. They have not concealed the severe and protracted suffering endured by the patients subjected to this painful and tedious procedure, nor have they shrunk from confessing its dismal results. Forty-two cases of cancer or schirrous breast are recorded. Of these, five were considered unfit for treatment and declined; three left the hospital without any apparent local disease; and thirty-four still suffered from it, in the form of enlarged glands, tubercles of the skin, or open sores. Anything more shocking than this it is impossible to imagine; and I sincerely hope that

the conclusive testimony thus published, in a form, externally at least, well suited if not intended for the table of a drawing-room, may tend to counteract the present rage for escharotic treatment.

It has long been a settled principle in surgical practice, that malignant tumors or sores should be either allowed to remain free from disturbance or completely removed, since tampering with them by irritating applications is the most certain means of exciting disease in the lymphatic glands or other textures. But the procedure advocated by the Middlesex surgeons was the most extreme degree of deviation from this rule, since it kept the local disease, together with the patient's system, in a perpetual fret for many weeks; so that no one need be surprised at the effects, which, indeed, these gentlemen thus admit: "Nothing could be more disastrous than this case; and there is no reasonable doubt that the tumultuous increase of the disease was directly owing to the local treatment." If caustic is ever used for destroying malignant textures, it should, therefore, be of such power and so employed as to strike at once to the root of the evil, and I am able to suggest efficient means for this purpose.

Mons. Velpeau, in speaking of the caustic made by mixing sulphuric acid with saffron, expresses his persuasion that it would be the best of all escharotics except for its expense and the difficulty of confining its action within certain limits. It occurred to me that sawdust would supply the place of saffron, and my assistants at the hospital ingeniously devised the following effectual means of restraining the extent of action. A solution of gutta serena in chloroform is applied to the skin for some distance round the part to be attacked; then a thick piece of the same material, with an aperture cut in it of the requisite size, and softened by exposure to heat, is pressed firmly so as to adhere everywhere to the surface thus prepared; a thin piece is next glued round the edge of the opening, so that, when supported by a stuffing of lint, it may form a wall enclosing the diseased part. Concentrated sulphuric acid, with about an equal weight of sawdust stirred into it, until the mixture assumes a homogeneous consistence equal to that of thin porridge, is lastly applied, in quantity proportioned to the extent of thickness concerned. In the first instance, as the pain is acute, opiates or chloroform may be used; but after a short while, so little uneasiness is felt, that the patient can easily allow the caustic to remain for ten or twelve hours, when it will be found that the whole diseased mass, though covered with skin and several inches in depth, has been reduced to a cinder, presenting the appearance of strongly compressed tow. Under poultices, the slough separates in the course of days or weeks, according to its depth, and the sore then heals without any trouble. If, therefore, patients, from an unconquerable dread of cutting, should prefer the escharotic treatment, or if the circumstances, on any other account, should seem to render this method eligible, the procedure just described may be found useful.

In conclusion, I beg to offer the following principles or practical rules for the treatment of cancer:

1. The treatment of cancer may be divided into curative and palliative.

2. The curative treatment should not be undertaken when the local disease is so seated or connected as to prevent its complete removal; when the lymphatic glands are affected; and when the patient's general health is deranged.

3. Removal may be accomplished by means of the knife, escharotics, and ligatures.

4. Of these means, in general the knife is best, and ligatures the worst.

5. Escharotics may be used with most advantage when the disease is superficial.

6. Escharotics, employed with a curative view, should always destroy the whole morbid part by one application.

7. The palliative treatment is generally best accomplished by means of soothing applications and attention to the general health.

8. When the local disease is very troublesome, it may sometimes be relieved for a time by destruction of the morbid growth.

9. The best agent for this purpose, and also with a curative view, is concentrated sulphuric acid properly applied.—*Edin. Med. Jour.*

Most extensive Laceration and Compound Comminuted Fracture of the left Forearm; Conservation of the Limb; Recovery. Under the care of Mr. SKEY, at St. Bartholomew's Hospital.

If abundant proofs were wanting to illustrate the true value of conservative surgery, we should only have to refer to the many examples constantly appearing in our "Mirror," wherein attempts have been made successfully to save lacerated and injured limbs, which the majority of surgeons would not have hesitated to remove. We have seldom witnessed a case which looked more hopeless than the following, the particulars of which we subjoin, and which very clearly shows what conservative surgery can do, when the surgeon himself has the fortitude to carry out its great principles. Complete success, with the possession of a useful forearm, attended the efforts used to save it.

John B——, aged eighteen, was brought into the hospital on October 13th, with an extensive laceration of the left arm by a turning lathe. The injury appearing to demand amputation, Mr. Skey was sent for, and arrived within an hour. On carefully examining the limb, it appeared that the integuments and the muscles of the back of the forearm from the elbow to the wrist were torn away; the radius exposed in one-half its length, and broken into pieces towards its middle; and the two remaining portions of the shaft separated by half an inch distance, each part reduced by the obliquity of the fracture to an elongated point. The supinator longus and the radial extensors were lacerated; while the common extensor of the fingers was rent asunder, except only a small portion of the latter muscle passing to the little finger, and the extensor carpi ulnaris; the arteries and nerves were entirely destroyed. The wound was further engrained with dirt. Some astonishment was expressed amongst the students by Mr. Skey's

announcement of his intention to endeavor to retain the arm, and saying he would put the arm up in splints, and watch its progress. The wound being carefully washed with a soft sponge, the dirt was removed by means of scissors, and all fragments of bone were detached; the muscles, both entire and mutilated, were restored as much as possible to their natural position. Slight extension was made on the arm; the integuments were brought as much as possible over the wound, and united by three or four sutures; the wound was then bound up in cotton wool, and the arm laid on a splint.

Mr. Skey confessed he had never seen the attempt made to retain a limb subject to so severe an injury; but he had the conviction that, with all our vaunt of conservative principles, we never put Nature's power to the fullest test. "Here is a case of extreme injury. Let us watch its progress carefully. I am quite prepared for the responsibility of the attempt to save the arm."

The patient was ordered eight to ten ounces of brandy each day up to the fourth. Slight redness appearing around the wound, the sutures were removed, and a light bread and water poultice was applied; brandy reduced to four ounces.

In ten days the wound began to granulate; the flaps retained their hold on the subjacent structures. Slight motion of all the fingers in extension was apparent.

At the expiration of five weeks the wound was reduced to about one-third its original size. The man was in good health, and the arm was preserved.

In his Lecture on the Muscles of the Back of the Forearm, Mr. Skey has always assigned to the extensor communis of the fingers the primary office of simple antagonism to the flexors.

The future condition of this patient will prove highly interesting as a study of muscular action.—*Lancet*, Dec. 12, 1857.

Disappearance of Cancer of the Tongue.

Amongst several cases of cancer of the tongue which we occasionally noticed at the Cancer Hospital was one of a man, aged fifty-eight, Louis B——, who became a patient in July last. At that time the organ was much enlarged, of an irregularly mottled color, with red and purplish discolorations here and there, and superficially ulcerated in two or three places. We watched this man very carefully, to see the effects of the treatment employed; and on the 3rd of November were agreeably surprised to find that a very great improvement had taken place. We at first scarcely recognized him, from the cheerful look which had replaced the former anxiety consequent on his sufferings. The tongue had diminished in size to something like its natural form, and had lost a good deal of the peculiar appearance it had previously presented. He could eat with more comfort, digested his food well, and was gaining flesh and strength. All this has been effected by careful attention to diet and tonic remedies, together with

the local application of the powdered sulphate of copper; upon which plan of treatment we have on a previous occasion dwelt. He is now and has lately been using a mild borax lotion, with the occasional use of powdered sulphate of copper. We heard Dr. Marsden say that he thought the man would be well in another three months, a prediction which we fully expect to see realized. This, however, will not be the first case which we have seen leave this hospital, not merely relieved, but with complete healing up of the disease.—*Lancet*, Dec. 12, 1857.

How Assistant Surgeons earned the Victoria Cross.

On the 8th of September, memorable for the attack upon the Redan, when all in the intermediate neighborhood retreated excepting one officer (Lieutenant Hope,) Dr. Egerton Hale, of the 7th Fusileers, remained, endeavoring to rally back the men; and, failing this, he himself stayed to protect and attend a wounded brother officer, Captain Jones. He next, after the regiment had retired into the trenches, cleared the advanced sap of the wounded, and carried in, under a heavy fire, several wounded men from the open ground.

Assistant-surgeon William Henry Sylvester, of the 23rd Fusileers, received this distinction for going out, on the 8th of September, 1855, under a heavy fire, in the front of the 5th parallel, to Lieutenant and Adjutant Dynely, of that corps, who was lying mortally wounded, and for dressing his wounds in that dangerous and exposed situation; and for his courage on other occasions, in going to the front under heavy fire to assist the wounded.—*Lancet*, 1857.

Closure of the Pupil from Adhesion of the Iris to an Opaque Capsule; Incision of the Iris, and Removal of the Capsule.

The patient was a middle-aged female, feeble, and very thin. The right eye was disorganized, from repeated attacks of inflammation. The left was but a wreck of disease: the cornea was opaque to a slight extent in the very centre, and cloudy in other parts; the sclerotica was discolored and vascular; the iris puckered and bulging; and the pupil, much contracted, was adherent to an opaque capsule.

Mr. Walton saw the eye several times before he decided on a course of action. He satisfied himself that there was no longer present any active disease, and that the perception of light showed the retina to be sufficiently intact to admit of an attempt at relief. The plan he proposed he was enabled to carry out. The cornea was divided at the side to an extent that would allow the lens, if present, and which would necessarily be opaque, to be taken out, and the iris incised close to the pupil. These steps were effected with a lancet-shaped iris knife. The external lip of the wound in the iris was drawn out, and a portion cut off with a pair of scissors. There was

no lens, absorption of this body having taken place. The opaque capsule was most readily removed with a pair of small forceps, the adhesion to the iris proving to be but delicate. The artificial aperture was not, as might be supposed, too large; on the contrary, it was rather under size, but it was advantageously placed, being behind the most transparent part of the cornea, and sufficed to afford useful sight. When the iris has undergone structural change, it is difficult to make an aperture of sufficient magnitude, and there is a tendency in the new hole to get less.

This is just the kind of case that used, but a few years ago, to be considered irremediable. Tyrrell's operation of drilling was introduced to overcome the difficulties, and it is a method possessing merit; but where the pupil is very much contracted, as in this example, the clearing of it as far as possible might not after all make a sufficient entrance for the light. Again, when there is central opacity of the cornea it is inapplicable. We see here, then, a marked instance of what we will venture to designate as progressive ophthalmic surgery.—*Lancet*, Dec. 5, 1857.

Hydatids in the Tibia.

We believe that but a single case is recorded of this rare affection implicating the tibia. If so, the case which is at present in the wards of St. Mary's Hospital becomes the more interesting, and forcibly shows that the tibia—already the seat of so many other affections—is not exempt from the invasion of parasites.

The patient is a female, twenty-eight years of age, who was admitted on the 29th of October, by name Sarah G——. She has had an enlargement of the right tibia for the last eight years, commencing from the size of a nut, and increasing to that of the palm of the hand, and originating in a blow. Four years ago she was a patient in Guy's Hospital, and left somewhat relieved. She had no pain till ten weeks ago, when the swelling ulcerated, and some hundreds of hydatids came away from the opening. This closed, and was subsequently twice opened. On her admission, the nature of the affection was seen, and on Nov. 4th, Mr. Coulson made a crucial incision over the tumor, and broke up the shell of bone forming its anterior boundary, and with a spoon scooped out multitudes of small hydatids. The cavity extended to within half an inch of the knee-joint, and on looking into this very large and now suppurating cavity on the 18th of November, we observed that a portion of the shaft of the tibia had become black and necrosed, and would have to be removed at a later period. When this bony cavity was completely laid bare, it was freely touched with nitrate of silver, and then filled with wadding and a lotion subsequently ordered of the chloruret of soda. On examining these hydatid-like animals, which was done by Dr. Sieveking, he found no echinococci, but discovered that they were acephalocysts.—*Lancet*, Dec. 5, 1857.

PROCEEDINGS OF SOCIETIES.

We intended to have published the continuation of the discussion on Puerperal Fever at the Academy of Medicine, but owing to a mistake our copy was received too late for this month. It will appear in our next number.

HOSPITAL REPORTS.

Bellevue Hospital.

In the November number of the MONTHLY, we gave a report of a lecture delivered at this institution, as introductory to a course of clinical lectures, which is to continue during the winter session of the Medical Colleges. Thus far, this course has been eminently successful, and largely attended by the students of each of the colleges. The facilities afforded to the student at this Hospital are not surpassed, if equalled by any other in this country.

The number of patients is constantly increasing, there being a much larger number of inmates at present than ever before, and as fast as the new wards are prepared to receive patients, they are filled by new applicants.

Bellevue Hospital, while giving medical and surgical care to the unfortunate poor, is sending broadcast throughout our country a vast amount of practical medical knowledge through the advantages here given to the medical student of observing disease and its treatment, and listening to the valuable clinical lectures delivered by members of the Medical Board. Students from every State in the Union here seek that bed-side instruction which will be of the greatest value to them through their professional life. Thus, Bellevue is doing a double amount of usefulness, a labor of charity not only, but a labor for medical education; thanks to the enterprise of the Medical Board.

The Homœopathic fraternity have been laboring hard, but thus far ineffectually, in trying to secure to their practice a portion of the wards at Bellevue.

Some of the members of the Board of Governors have been prevailed on to give their support to this proposal, but they cannot induce a majority of their colleagues to believe that the infinitesimal system deserves the confidence or patronage of those having charge of public institutions at this enlightened day.

During the month of November, clinical lectures were delivered by Drs. Barker, Clark, Elliot, Metcalf, McCready and Jas. R. Wood.

Drs. Clark, Metcalf, and McCready have lectured in the medical wards upon the various diseases there present.

Dr. Barker has visited the lying-in wards, lecturing there, and also at the Pathological Hall, upon the "puerperal state," commencing his course upon the state of the mother immediately after delivery, or the conditions peculiar to the post-partum state.

Dr. Elliot's lectures were upon operative midwifery, with illustrations with the subject at the Pathological Hall.

Dr. Wood's lectures have been upon "diseases of the breast," and "diseases of the testes."

Of the character of these lectures but little need be said; the names of the gentlemen who delivered them are a sufficient guarantee that they were of marked ability and full of valuable practical information.

There has been a great deal of interest in the surgical wards, and Dr. Wood has had a real shower of operations, some of which were of a very important character, and will not fail to add to his well-deserved reputation as a good operator.

During the month of November he has operated, in the presence of the class, upon the following named cases: vesico-vaginal fistula, aneurism of radial artery, necrosis of the tibia, malignant tumors of the scalp, fistula in ano, scrofulous testicle by castration, amputated a thigh and forearm, and removed a large cancerous breast, weighing 14 lbs.

Our limits will not permit us at present to notice in detail any of the above cases, nor those in the medical wards.

Dr. Chas. D. Smith operated on a case of abscess of the tibia.

The new operating theatre in the central building is nearly completed, and cannot fail to reflect much credit upon the architect. It is admired by every one who visits it, and is believed to be unequalled in all the requirements of an operating theatre.

It is circular in form, lighted from above by a large dome, and has a window on the east side.

It will be lighted with gas at night, and will be a beautiful room not only for an operating theatre, but for a lecture room, or if needs be, a *chapel* for the patients.

In the lying-in wards there were 35 births during the month of November, of which number 3 required instrumental interference, and in each of those cases both mother and child were saved. Dr. Elliot was visiting physician for the month.

The visiting physicians for December were Drs. Clark and Taylor. The visiting surgeons, Drs. Sayre and Wood.

Drs. Barker and Elliot have also continued their lectures.

On the 7th, Dr. Taylor gave a lecture on Obstetric Auscultations, which was illustrated by 18 cases of pregnancy, in each of whom the foetal heart could be heard, and in several instances the bruit de souffle was also present.

On the 5th, Dr. Wood gave a lecture on Fracture, in the surgical ward, where many cases were exhibited to the class. On the 12th, he commenced his course of lectures upon Relative Anatomy and Operative Surgery.

His lectures and operations are largely attended, and the students appear to appreciate his untiring efforts to increase their advantages at this hospital.

The improvements and additions to the buildings that have been in progress during the past year, are nearly completed, and under the watchful care and supervision of Gov. Daly, the Warden, the building and grounds will be kept in admirable order.

EDITORIAL AND MISCELLANEOUS.

The Editors of the MONTHLY beg leave to offer to their readers the best wishes appropriate to the season. It is regretted that, in consequence of some changes made in the printing of this volume, the issue of the present number was of necessity delayed beyond the first instant. But these arrangements being now satisfactorily completed, they hope hereafter to place subscribers' copies before them as near the first of each month as the mails will permit.

Though not much given to boasting, or to speaking of themselves, the Editors find themselves compelled, by the erroneous statements of other and interested parties, to say a few words concerning the condition of the MONTHLY, its aim, and its purposes.

And in the first place as to its circulation—during the past year the increase in its list was unprecedentedly large. While the other journals of the city have been falling off in their circulation, the MONTHLY has been increasing in a constant and steady ratio, which to their surprise as well as gratification, the Editors find is undiminished by the pressure of the financial difficulties of the last year. A few, a *very* few of their subscribers, (not more than two or three in all,) have been compelled to do without the MONTHLY for the ensuing year,

but their letters have in every instance expressed their regrets that such was the case, and contained their commendations of the MONTHLY.

Second, as to the size of the MONTHLY—the Editors find themselves compelled now to enlarge their edition, and, in order to have still more room for the large amount of matter which they wish to lay before their readers, they have added *sixteen* pages to each number, making an increase of *one hundred and ninety-two* pages a year, still without raising the price. Subscribers will notice, also, that in this is not included either the pages of the cover, or those which are occupied by advertisements, as is often done by journals. The MONTHLY contains *eighty* pages of *reading* matter in each number, *exclusive* of both of these. This makes it the largest medical journal published in New York, while it is within the option of subscribers to make it at the same time the cheapest, by early payment of their subscriptions.

Thirdly, as to its principles and course. The MONTHLY will be conducted in an entirely independent manner. Its Editors are bound to no clique or party, they are not members of any mutual admiration society, they control entirely their pages, and will use them only for scientific purposes. Their only aim is to make a Medical Periodical which shall meet the wants of the profession, and be to their subscribers a useful, agreeable and entertaining visitor. They have no occasion to withhold praise or reproof from any man or men if occasion requires either; their vision is not so limited that they can behold nothing but New York, nor so superficial that they are blind to the vast facilities for medical instruction and study which this city affords.

The Editors have no belligerent impulses to gratify, no personal animosities to indulge. *Sans peur et sans reproche* may appropriately be their motto.

From Europe, early, interesting, and reliable information will constantly be furnished, by extracts from Journals, private correspondence, and the contributions of articles to these pages from various savans of the Continent. One of these papers appears in this number.

From our own country there is reason to expect constant and valuable contributions, from without as well as within the city. The pages of the MONTHLY are open to every writer who may furnish papers of value to the profession, though of their adaptability to their uses the Editors can be the only judges.

Begging pardon for occupying so much space with these matters, the Editors address themselves to the labors of the year, with entire confidence that their results will be satisfactory.

— From a review of a work by Dr. Alex. Mayer, on conjugal relations contained in the *Revue de Therapeutique*, (Paris, Nov. 1,) we make the following extract, and commend it to the attention of our readers. Touching, as it does, upon a practice which is, we have reason to believe, fearfully prevalent in this country, even among the more intelligent classes, we make no apology for introducing it, but trust that it may serve to call the attention of the profession to the evil, and the best method of counteracting it:

“ Doctor Debreyne has justly applied the epithet *conjugal onanism* to artifices designed to prevent fecundation; for it is, in fact, the repetition of the act of Onan, improperly confounded with masturbation. This is not the place to say how religion condemns this act, which, as we are shown in Genesis, was punished by the death of him who first committed it.

“ Leaving, then, to the theologian the spiritual view of the question, the physician has at first to inquire if this act has not, in a material point of view only, serious inconveniences. At the present time, this cannot be doubted.

“ What the author says, is supported by good authorities, and is doubtless known to most of our readers; but it is not sufficiently known to those whom it concerns. Conjugal onanism appears to have the same sad influence upon each of the married pair as solitary onanism. The natural crisis of sexual concourse is wanting. There is, at the time, physical and moral restlessness, (*malaise*.) Some pathologists have suggested, what is quite probable, that the uterus, disappointed in its expectations, for that reason contracts the germ of those chronic affections which are the despair of our art. But, besides these organic affections, account must be taken of the nervous diseases of both sexes, which are now the fashionable maladies, a large portion of which are referred etiologically to various sexual abuses.”

— In the *Gazette Hebdomadaire*, for November 6, 1857, the editor, in extracting from a contemporary French journal the history of a case of diphtheritis, treated successfully by catheterism and cauterization of the larynx, congratulates himself upon being among the first to call attention to this mode of treatment. The course of the MONTHLY upon this subject is too well known to need any comment from its editors; but as it has persisted in defending the truth in its struggle for elevation, against great odds, it can consistently and very properly cite such cases, occurring in the practice of the celebrated Professor of Hotel Dieu, who has always been quoted as an opponent, and an unbeliever in the practice, to sustain its past and present position.

It is evident that the credit of this method is being strongly claimed by French writers for one of their own countrymen. The history of the practice, however, points to this country as its birth-place, and

we here emphatically put in a reclamation for an American. The method is already entitled by the French "The method of M. Loiseau," when the paper read by Dr. Green, of New York, before the New York Academy of Medicine, and which elicited a warm debate, was translated into French, and appeared in the *Gazette Hebdomadaire*, for October, 1855, nearly two years before the paper of M. Loiseau was sent to the Paris Academy of Medicine. This journal admits, in its issues for August 27 and September 4, Dr. Green's claim of priority, and in view of these facts, we do not see the propriety of calling it "Loiseau's method."

It might be well for the Committee of the New York Academy of Medicine to report further progress, and to claim for their own body the merit of being the first to send forth the knowledge of this "Therapeutical conquest" to the world.

"An application of the process and instruments of M. Loiseau has just taken place in the service of M. Trousseau, who made a very favorable report upon it at the Academy. The words of the observation, as published in the *Gazette des Hôpitaux*, would lead us to think that the use of the sound had not penetrated beyond the ventricles. But as it is, in fact, for the treatment of laryngeal affections that the catheterism of the air passages is especially useful; as it is in those affections particularly, which, from their nature and from the asphyxia they produce, require most urgently topical measures, the great importance of this therapeutical conquest is easily understood.

"The application of the instrument was upon a little girl four years old, who entered Hotel Dieu, October 9, for diphtheritis, affecting exclusively the tongue, and accompanied by a slight engorgement of the sub-maxillary ganglions. The weak voice and hoarse cough, however, announced that the larynx was beginning to be affected. The cauterization of the tongue, at first with a stick of the nitrate of silver, and afterwards with a solution of the sulphate of copper, insufflations of tannin, and of alum in the pharynx, the internal use of the chlorate of potass, brought about some diminution in the extent of the false membranes. The other symptoms persisted, and some fever arose. The evening of the 23d, according to the instructions left by M. Trousseau, the chef de clinique, M. Blondeau operated for catheterism of the larynx, after the process of M. Loiseau.

"The first phalanx of the index finger of the left hand being armed with a metallic thimble, the operator opened the mouth of the child by means of a spoon.

"This was the most difficult part of the operation, on account of the resistance of the little patient.

"Having, however, separated the jaws, M. Blondeau took advantage of this moment for carrying his finger quickly down the throat as far as possible, so as to reach the base of the tongue and the epiglottis. He succeeded in doing this quite easily, and the epiglottis

was for an instant elevated by the finger; unfortunately, the protecting ring was not large enough, so that he was obliged to withdraw the finger, it having been severely bitten by the patient.

"Upon the second trial he was more fortunate, although the finger was not completely protected against the bites of the child. Along this finger introduced into the mouth, the operator carried rapidly a metallic sound, supplied with two fenestræ, and properly curved at its extremity. In this manner he readily reached the larynx, when the finger holding the epiglottis raised, permitted easy access. The fact that the sound had actually penetrated into the air passages was announced by the noise which the air made in escaping through the instrument. Through this was immediately thrown a caustic injection, (a saturated solution of the sulphate of copper,) then the sound was withdrawn. The whole operation—the introduction of the finger, the catheterism, the injection—required hardly a few seconds.

"A remarkable fact, and which M. Blondeau, who performed this operation for the first time, did not anticipate, was that this operation did not appear at all painful to the child except at the moment when the finger was introduced into the mouth and the epiglottis raised. It was only then that the child struggled, and seemed agitated. As to the catheterism, and the injection itself, she bore them wonderfully well.

"Another proof that the sound was really in the larynx, and even in the trachea, is that the injection of a considerable quantity of the caustic solution produced neither vomitings nor nausea; and it is well known that a very small quantity only of the sulphate of copper, taken into the stomach, is necessary for provoking not only painful desires to vomit, but excessive vomitings. Nothing of the kind, however, took place, and the patient rejected by the canula only a little viscid mucus, evidently coming from the bronchial apparatus.

"The next morning, the 24th, the voice had regained in a great degree its clearness. A second catheterism was nevertheless made, this time by Prof. Trousseau himself, who was also bitten by the child, yet succeeded in making the operation. In the evening the operation was again repeated, but this time the finger was better protected, by a slight modification in the form of the ring, the superior face of it being increased in size. The catheterism performed by M. Trousseau was witnessed by Dr. Bouchut, who as well as all the assistants acknowledged not only the facility, but the harmlessness, you can say the benignity even of this operation.

"The morning of the 25th, the catheterism was performed for the last time. The condition of the patient very much improved, the voice was clearer, the lingual diphtheritis had almost entirely disappeared.

"The 28th, the child was in a state of convalescence, although the voice remained a little hoarse."

A still further application of this method comes to us from Edinburgh, and is reported in the November No. of the *Edinburgh Medical Journal*, by Prof. J. H. Bennett, which we subjoin:

"My period of attendance on the clinical wards having expired in January, it was not until last May that I had an opportunity of making a series of observations on this subject. I was then fortunately assisted by Professor Barker, of New York, who showed me the kind of catheter he had seen Dr. Green employ, and demonstrated the manner in which the operation was performed. Without entering into minute particulars, I have only to say that I have confirmed the statements made by Dr. Horace Green. I have introduced the catheter publicly in the clinical wards of the Royal Infirmary in seven patients. Of these, five were affected with phthisis in various stages; one had chronic laryngitis with bronchitis, and one chronic bronchitis, with severe paroxysms of asthma. In several other cases in which I attempted to pass the tube, it was found to be impossible—in some because the epiglottis could not be fairly exposed, and in others on account of the irritability of the fauces and too ready irritation of cough from pressure of the spatula.

"My experience of this treatment is as yet too limited to permit my saying anything of its permanent effects. In the case of bronchitis with asthma—a female, aged 24—I have now injected the lungs eleven times, at first throwing in ʒij. of a solution of nitrate of silver, of the strength of ʒss. of the crystalized salt to ʒj. of distilled water, and latterly I have thrown in ʒss. of a solution of the strength of ʒij to ʒj. She declares that no remedy has had such powerful effect in lessening the cough, diminishing the expectoration, or delaying the asthmatic paroxysms. She breathes and blows through the tube, when inserted four inches below the larynx, and I have been surprised at the circumstance of the injections not being followed by the slightest irritation whatever, but rather by a pleasant feeling of warmth in the chest, (some have experienced a sensation of coolness,) followed by ease to the cough, and a check for a time to all expectoration.

"I think it of importance that these facts should be known to the profession, as a homage justly due to the talents of a distinguished transatlantic physician, and with the view of recommending a practice, which, if judiciously employed, may form a new era in the treatment of pulmonary diseases."

—Dr. Lindsay, in the *Edinburgh Journal*, gives the following interesting information concerning medicine in Norway:

"I cannot here resist a slight digression from my subject, in order to avail myself of an opportunity of recommending to the medical tourist, who has become tired of the beaten and hackneyed track of the Rhine, France, and Switzerland, or of Paris, Berlin, and Vienna, and who pants for 'fresh fields and pastures new'—Norway, as a suitable locality for some subsequent holiday ramble. He will find in Christiania an admirable Medical School, and a comparatively young but model University, with a staff of professors, distinguished no less for their affability and kindness to strangers, than for their eminence in science. Holst and W. Boeck in medicine, Faye in midwifery, C. B. Boeck in physiology, Sars and Esmarck in zoology, Blytt in botany, Munch and Keyser in archæology, and Hansteen in astrono-

my, may favorably compare with the staff of any Continental University. Great pains are taken for the *practical* teaching of the medical student. Rooms are provided for study, and for the prosecution of experimental research; and professors are constantly in attendance, watching over and directing the progress of their pupils more as fathers and friends than as mere lecturers. The University library is most extensive and valuable, and is particularly liberal in its dealings,—the citizens in general, as well as the students, having the privilege of consulting or borrowing books. The museums of zoology, human anatomy, comparative anatomy, pathology, etc., though yet comparatively in their infancy, are exceedingly well arranged, and contain the nuclei of most valuable collections. When I visited the Museum of Zoology, I found Professor Esmarck in attendance, for the purpose of affording every information and explanation to the public, to whom the museum is thrown open gratuitously. With me, a perfect stranger, he entered at once familiarly into conversation, exhibiting his new and most ingenious method of so arranging fluid preparations of great size on the museum shelves, as greatly to economize space; pointing out the most interesting and rarest of his own captures on the Mediterranean coasts; and affording me much valuable information regarding the Norwegian fauna. It was not necessary to be provided with introductions in order to be received with equal kindness by other professors, to whom the mere fact of one's being a stranger, and desirous of seeing this or knowing that, was at once a passport to their friendly offices. The medical visitor will further find the Rigshospital, or City Infirmary, conducted very much like our own city hospitals, and all its physicians and surgeons ready to afford him every facility for visiting it; while the State Lunatic Asylum at Gaustad, the State Penitentiary, and other institutions, are equally worthy of his attention. Again, at Bergen, he may study, under the celebrated Dr. Danielssen, that peculiar and rare affection, endemic on the west coast of Norway—the *Elephantiasis Græcorum*,—with other allied skin diseases."

—Clinical instruction is the key-note of all the lengthy essays written upon reform in medical instruction. This is well, for it is by clinical instruction that the student is better fitted to apply the academic instruction which constitutes so great a part of his education. Large cities naturally supply the materials for such instruction, and none so eminently as New York. In addition to the several public hospitals and college clinics, several private institutions for clinical instruction afford increased facilities to those students who seek this city for a medical education. Physical diagnosis, microscopy, chemical analysis, surgical anatomy, with operations on the cadaver, ophthalmic surgery, &c., &c., are all taught by private teachers. During the months of January and February a course of lectures on the latter subject—that of ophthalmic surgery—will be given by Dr. Mark Stephenson, at the New York Ophthalmic Hospital, No. 6 Stuyvesant

Place. The last Annual Report of this hospital shows that during the preceding year 1,200 cases of diseases of the eye were operated upon or prescribed for, including most of the diseases which afflict that organ. This course of lectures, then, illustrated, as it will be, by the cases which present themselves at the hospital, cannot fail to be of great service to the student who avails himself of this opportunity to examine, under a competent teacher, the various diseases of the eye, and witness the medical and surgical treatment of the same. Dr. Stephenson will meet his class there twice a week for this purpose, at such hours as will not interfere with other lectures. This is the sixth course Dr. S. has given upon his specialty, and with eminent satisfaction to those who have heard him.

—The distinguished traveller in Africa, Dr. Livingstone, (who is by the way an M.D.,) in his book, lately published, gives some items of interest to professional readers. He thus describes a new anæsthetic which few will fancy trying. He had shot two balls into a lion, and was reloading:

“When in the act of ramming down the bullets I heard a shout. Starting and looking half round, I saw the lion just in the act of springing upon me. I was upon a little height. He caught my shoulder as he sprang, and we both came to the ground below together. Growling horribly close to my ear, he shook me as a terrier dog does a rat. The shock produced a stupor similar to that which seems to be felt by a mouse after the first shake of the cat. It caused a sort of dreaminess, in which there was no sense of pain nor feeling of terror, though quite conscious of all that was happening. It was like what patients, partially under the influence of chloroform, describe, who see all the operation, but feel not the knife. This singular condition was not the result of any mental process. The shake annihilated fear, and allowed no sense of horror in looking round at the beast. This peculiar state is probably produced in all animals killed by the carnivora; and, if so, is a merciful provision by our benevolent Creator for lessening the pain of death. Turning round to relieve myself of the weight, as he had one paw on the back of my head, I saw his eyes directed to Mebalwe, who was trying to shoot him at a distance of ten or fifteen yards. His gun, a flint one, missed fire in both barrels. The lion immediately left me, and attacking Mebalwe, bit his thigh. Another man, whose life I had saved before, after he had been tossed by a buffalo, attempted to spear the lion while he was biting Mebalwe. He left Mebalwe and caught this man by the shoulder, but at that moment the bullets that he had received took effect, and he fell down dead. The whole was the work of a few moments, and must have been his paroxysm of dying rage. In order to take out the charm from him, the Bakatla on the following day made a huge bonfire over the carcase, which was declared to

be that of the largest lion they had ever seen. Besides crunching the bone into splinters, he left eleven teeth-wounds on the upper part of my arm. A wound from the animal's tooth resembles a gunshot wound; it is generally followed by a great deal of sloughing and discharge, and pains are felt in the part periodically ever afterwards. I had on a tartan jacket on the occasion, and I believe that it wiped off all the virus from the teeth that pierced the flesh, for my two companions in this affray have both suffered from the peculiar pains, while I have escaped with only the inconvenience of a false joint in my limb. The man whose shoulder was wounded showed me his wound actually burst forth afresh on the same month of the following year."

A drought prevailing at one time, a *Rain Doctor* undertook to remove the obstruction, and this conversation ensued upon Dr. L's remonstrating with him for humbugging the people:

"*Rain Doctor*. I use my medicines, and you employ yours; we are both doctors, and doctors are not deceivers. You give a patient medicine. Sometimes God is pleased to heal him by means of your medicine; sometimes not—he dies. When he is cured, you take the credit of what God does. I do the same. Sometimes God grants us rain, sometimes not. When he does, we take the credit of the charm. When a patient dies, you don't give up trust in your medicine, neither do I when rain fails. If you wish me to leave off my medicines, why continue your own?—*Medical Doctor*. I give medicine to living creatures within my reach, and can see the effects though no cure follows; you pretend to charm the clouds, which are so far above us that your medicines never reach them. The clouds usually lie in one direction, and your smoke goes in another. God alone can command the clouds. Only try and wait patiently; God will give us rain without your medicines.—*R. D.* Ma-hala-ma-kapa-a-a!! Well, I always thought white men were wise till this morning. Who ever thought of making trial of starvation! Is death pleasant then?—*M. D.* Could you make it rain on one spot and not on another?—*R. D.* I wouldn't think of trying. I like to see the whole country green, and all the people glad; the women clapping their hands and giving me their ornaments for thankfulness, and lullilooing for joy.—*M. D.* I think you deceive both them and yourself.—*R. D.* Well, then, there is a pair of us (meaning both are rogues)."

Another extract concerns a question of interest lately mooted:

"I have examined several cases in which a grandmother has taken upon herself to suckle a grandchild. Masina of Kuruman had no children after the birth of her daughter Sina, and had no milk after Sina was weaned, an event which is usually deferred till the child is two or three years old. Sina married when she was seventeen or eighteen, and had twins; Masina, after at least fifteen years' interval since she last suckled a child, took possession of one of them, applied

it to her breast, and milk flowed, so that she was able to nurse the child entirely. Masina was at this time at least forty years of age. I have witnessed several other cases analogous to this. A grandmother of forty, or even less, for they become withered at an early age, when left at home with a young child, applies it to her own shrivelled breast, and milk soon follows. In some cases, as that of Ma-bogo-sing, the chief wife of Mahure, who was about thirty-five years of age, the child was not entirely dependent on the grandmother's breast, as the mother suckled it too. I had witnessed the production of milk so frequently by the simple application of the lips of the child, that I was not, therefore, surprised when told by the Portuguese in Eastern Africa of a native doctor, who, by applying a poultice of the pounded larvæ of hornets to the breast of a woman, aided by the attempts of the child, could bring back the milk. Is it not possible that the story in the 'Cloud of Witnesses,' of a man during the time of persecution in Scotland putting his child to his own breast, and finding, to the astonishment of the whole country, that milk followed the act, may have been literally true? It was regarded and is quoted as a miracle; but the feelings of the father towards the child of a murdered mother must have been as nearly as possible analogous to the maternal feeling; and, as anatomists declare the structure of both male and female breasts to be identical, there is nothing physically impossible in the alleged result. The illustrious Baron Humboldt quotes an instance of the male breast yielding milk; and though I am not conscious of being over-credulous, the strange instances I have examined in the opposite sex make me believe that there is no error in that philosopher's statement."

—An interesting item is in reference to some investigations concerning the prevalence of insanity, and the effects of intermarriage among the British Jews:

The *Jewish Chronicle* says:—"After having carefully sifted and weighed the evidence under our notice, we have arrived at the conclusion—1. That there is no proof whatever that insanity prevails in the community proportionately to a larger extent than amongst the rest of the population. 2. That if it even existed, it could not be the effect of intermarriages. 3. That intermarriages are far from producing those undesirable effects popularly yet erroneously attributed to them. 4. That although there is reason to believe that the amount of insanity in the community does not exceed the proportion which the number of our insular co-religionists bears to that of the rest of the population, the affliction yet prevails to a greater extent than it did comparatively in former years."

—In the *Medical Journal* of Brussels, Doctor Hamal recommends this method of destroying body lice. Wash the parts covered with hair with warm water and common soap, follow this with several ablutions with simple water, and when the parts are dry rub them with cholorform dropped on gradually. Then cover the parts with a

handkerchief several folds thick, and at the end of half an hour remove it, and wash the parts with warm soap suds.

—Dr. David Blair, Surgeon General of Demerara, is dead. If we are not mistaken, this is the gentleman who published, about two years since, one of the best papers on yellow fever that has ever been our fortune to read.

—It is claimed for Dr. Fell that the method of applying his caustics for the cure of cancer is original. Our readers will remember that his caustic preparation is chloride of zinc mixed with barley flour and powdered blood-root. It therefore remains true that either his method of application is new or that nothing is, and as the Middlesex Hospital Surgeons have taken refuge behind the assertion of its novelty, we rather regret that it is not so. At any rate, Dr. Fell has no title to originality in the matter. Precisely the same thing has been done in this city a great many times by a cancer doctor named Gilbert. His method, as described by patients, was to make incisions into the tumor, and to apply a paste precisely similar in its appearance and effects to that which Fell uses. In two of Gilbert's cases it became necessary for surgeons to secure large arteries which had been divided by the caustic, and to the imminent danger of the patient. We have in vain sought for a single case which was cured by this method.

Apropos of Fell, it may interest his British friends to know that he was more prominent here as a small politician in the Eighth Ward than as a medical man. Becoming disgusted with his want of success in practice, he learned of Gilbert his method of treating cancers, and went to Europe on a speculating tour, which has been vastly more successful than we should have thought possible. It puzzles us that he should have worked his way into such professional circles.

—"Bread upon the Waters," is the quaint title of the following in the *Lancet*, (Dec. 19th,) upon a subject which may be of very great importance in some parts of our own country:

"It suits poetasters," said Tom Hood, "to talk of the domain of the sea and of the fields of the ocean; but, after all, it is but a sorry estate that is all fish-pond, and it is but a barren field that grows nought but weeds." The old Scythian Time, who sweeps on equally regardless of his jokes or of their verses, winning the final victory alike over poetasters and over wits, and calling constantly for new editions of the "Guide to Useful Knowledge," seems likely to command us to erase from our books the contemptuous epithets which men have been wont to apply to the weeds of the sea. They have floated through

ages of scorn and obloquy. "Projecta vilior algâ," was the lowest term for worthlessness in the language of Horace and of Virgil. Downright Dr. Johnson terms them "noxious and useless plants." We are now entitled to say in equally Johnsonese language, "Sir, they are neither."

Seaweed has a more extended range of growth than perhaps any other vegetable; for wherever the ocean rolls there it lives. How, then, should it be noxious and useless even to man? Moreover, its known esculent capabilities are already very great, and a most intelligent and meritorious effort is being made, at this time, to increase our knowledge of the chemical character of marine algæ, and to multiply their application as food or medicine for men and animals. Such purposes they already largely subserve in various parts of the world. The Icelanders, the Highlanders, the Irish, the Kamschatkans, the inhabitant of the Orkney Islands, the populations of Van Dieman's Land, New South Wales and New Zealand, the Chinese, the Cingaese, the Japanese, and the Scindians, feed extensively upon seaweed and its products. They ferment them, or eat them boiled with butter, or as broth with animal substance, or pickled; by way of condiment with meat, stewed with rice, in the form of jelly, and in a thousand other ways. The Carrageen moss (*chondrus crispus*) and laver (*porphyra vulgaris*) find their way as luxuries to our tables. Nevertheless, there is the strongest reason to believe that the esculent capabilities of the algæ are but very imperfectly developed. Sir John Trevelyan has, under the auspices of the Society of Arts, offered a handsome premium for the best original essay, accompanied by illustrative edible preparations, and containing new analyses of these economic applications of the algæ and their products. To medical men their utilization, as articles of diet, affords a field of research especially interesting, since the large quantity of iodine and bromine which they contain indicate valuable dietetic relations in which they may be employed. We trust that the bread which the sea thus casts upon our shores may soon be estimated at its true value.

—In the formation of the new corps of guardians for the lives and property of our citizens—the Metropolitan Police—a number of medical men have been incorporated as surgeons to that body. The city has been divided into twelve districts, and a surgeon assigned to each district. The duties of these medical officers are multifarious and the place no sinecure, if we are to judge from the report of the committee to the Commissioners in reference to the subject:

It is made the duty of each surgeon to report at least once in three months on the health of the police force and the sanitary condition of the station houses in his district, to render professional services to all members of police force stationed in his district, who may be ill, whether such injuries be in consequence of injuries received in duty or from ordinary sickness and indisposition, and to report them in writing to the Chief Clerk of Police on the last day of each month; the

cause of such illness, and specify the number of days when any officer in his district was unable, from wounds received while on service, or from illness contracted from exposure in performance of duty; to carefully inspect and report upon the state of the station houses, condition and ventilation of cells, and on all matters connected with the station houses or other buildings in charge of the Board, affecting injuriously the health of the inmates; to attend all prisoners confined in the station houses of his district on the requisition of the officer in command; to attend all casualties requiring professional aid in his district; to visit all persons reported to him to have been assaulted or otherwise injured, whose cases have or may become the subject of investigation by police magistrates, and report whether the injuries sustained are of such a nature as to render it necessary for a magistrate to be called to take the injured person's deposition; and when life is in danger to immediately notify the General or Deputy Superintendent; to visit all injured persons whose cases are undergoing judicial investigation; to inspect, when called upon, the cases of any animals within his district suspected to be diseased, or any butcher meat, fish, poultry or other articles of provisions suspected to be unfit for human food, and to give evidence thereon in court; to inspect any adulterated provisions within his district; to report all nuisances affecting the public health, or the presence of any contagious disease in his district; to certify to the condition of any officer who may have been sick, the officer not to be put on duty without such a certificate that he is well. The rules conclude as follows:

It shall be the duty of those Surgeons of Police who receive fifteen hundred dollars per annum for their services, in consideration of their larger compensation, to examine the physical condition of all candidates for police appointment, whose applications shall have been favorably considered by the Board of Police, and report thereon in writing whether such candidates possess the qualifications prescribed in respect to health, strength, stature and age. Such reports shall be signed by at least two of the Surgeons referred to in this section, and shall be filed in the office of the Chief Clerk. It shall be the duty of all the Police Surgeons to make the examinations herein named whenever required by resolution of the Board of Commissioners.

It shall be the duty of one or more of the Surgeons of Police to repair to any part of the Metropolitan Police District whenever so directed by the Board of Commissioners, and to examine and report upon the presence of contagious or other disease, upon the existence of nuisances dangerous to the public health, or upon any matter or thing within the said police district that may be supposed prejudicial to the public health.

—Mr. Syme has recently removed the whole tongue on account of cancer. The symphysis of the lower jaw was divided, and the tongue cut away close to the hyoid bone. Only a few ounces of blood were lost. The patient was able to walk out of the operating room, and was doing well a few days after the operation.

—The *Lancet*, (Dec. 19th,) is rather severe upon lawyers, on account of their ignorance concerning insanity. Hear what the editor says:

“On Monday evening, Dr. Forbes Winslow read his paper before the Juridical Society, “On the Legal Doctrines of Responsibility in Cases of Insanity connected with alleged Criminal Acts.” There was a much larger attendance at the meeting than usual, the Vice-Chancellor Sir John Stuart being in the chair, and amongst the members present was Mr. Bramwell, as well as many of the most distinguished members of the bar. This is the first time that the attention of lawyers has been directed to this important subject by means of a paper written by a medical man, and communicated to a legal society in which free discussion is permitted; and we cannot but rejoice that a way has at last been opened whereby the views entertained by the medical profession upon what ought to be the legal responsibilities of the insane can be distinctly enunciated and tested by that “touchstone of truth,” oral discussion. We look upon the proceedings of Monday night as constituting an era in the history of criminal jurisprudence; and we venture to predict that when a few more such papers shall have been read and discussed at the Juridical Society, it will be impossible for that body to listen with common patience to views to which Mr. Baron Bramwell gave utterance in the course of the debate on Monday. We have always believed that the great differences existing between the doctrines of lawyers and medical men on these subjects depended chiefly on the want of practical acquaintance with insanity under which the former labor; but we confess we were unprepared for the appalling ignorance of the first principles of moral and mental philosophy which was displayed by a lawyer who has within the last two years been deemed worthy of elevation to the bench. In referring to Dr. Winslow’s remarks on the distinction between the intellectual and moral feelings, Mr. Baron Bramwell positively declared that, “*for his part, he doubted the existence of moral faculties, or a moral sense.*” We are acquainted with another learned judge who, on being asked to read a well-known medical work on Criminal Insanity, absolutely declined to do so, stating that he never read anything of the sort, and in fact rejoiced in his ignorance. With such materials to work upon, progress must necessarily be slow, but it will be sure; and the time is not far distant when the judges will shrink with as much horror from hanging a lunatic as they would now do from burning a witch. Dr. Winslow’s paper was, as might have been expected, an extremely well-written and philosophical essay, and was listened to with a degree of attention which, at any rate, argued a desire on the part of the members of the Juridical Society to learn what they could. It was painfully evident, however, from the discussion which followed, that the minds of the audience were unprepared to grasp the great truths laid before them, and we therefore hope that the author will follow up this paper with another, in which, by giving copious details of cases, he may furnish the legal mind with a species of food which it can assimilate more readily than the recondite truths of psychological philosophy.

—City readers will do an act of charity by purchasing tickets for a concert to be given before long (the time is not yet announced,) in Dr. Corey's Church, in Fifth Avenue. It is to be under the direction of Mrs. Secor, for general charitable purposes, but a portion of the proceeds will be applied for the relief of the family of the late Dr. Vachè, of this city. We regret to hear that their necessities are urgent, and physicians cannot do a greater kindness than by purchasing tickets and endorsing them for Dr. Vachè, that their payments may go in that direction.

—It was not possible for us to notice in the proper place the *Physician's Hand-Book of Practice*, which is advertised this month, but vary from our custom, to speak of it here, because it is always desirable to begin the year with such a register. Although in the general idea all such publications agree, this differs materially from all that we have seen in several particulars. For instance, there are nearly a hundred pages containing a classified list of diseases, and another of remedies, but the paper is so fine that it occupies little space. Another feature is a record intended to keep in a condensed manner an account of the symptoms and treatment of the most interesting cases under the practitioner's care. Both of these are valuable additions, and their arrangement is skillful. Use alone can demonstrate its adaptedness to each individual, but we think it will be found useful and convenient.

—A movement has been made in this city by Mr. D. W. Jobson, to open the way for women to become acquainted with, and to practise dentistry. It would seem to be an occupation perfectly adapted to their ability, requiring as it does no greater degree of strength than they ordinarily possess, permitting them to control their hours perfectly, and not interfering with their domestic duties to a greater degree than many other employments now almost entirely abandoned to them. Desirous of seeing every proper means of employment opened to women, we wish Mr. Jobson eminent success in his undertaking, for which we are informed his professional attainments admirably fit him.

Acute Articular Rheumatism.—Doctor Hauschka recommends, as the best means of abbreviating the duration of acute articular rheumatism, the administration of large doses of iodide of potassium in conjunction with morphia. He gives in the course of the day from 15 grains to 4 scruples of the iodide, with from $\frac{1}{2}$ to 1 grain of morphia. He never has recourse to local treatment when the rheumatism is polyarticular.—*Rév. Méd.*

Motives of Suicide.—In the year 1851 there were 3598 suicides recorded in France, to each of which the presumed motive was affixed. Out of these, no less than 800 are set down to mental alienation; and to that number we should add, 70 cases of monomania, 39 of cerebral fever, and 54 of idiocy—all ranking under the general head of uncontrollableness—which will make a total of 963, or more than a fourth of the whole number of cases. If we now examine the remaining cases, we find “domestic quarrels” next in amount, being no less than 385. Next in importance to domestic quarrels is the desire to escape from physical suffering; these amount to 313. Debt and embarrassment rank next, 203. Want and the fear of want, 172. Disgust at life—which may properly be called low spirits—stands high, 166; shame and remorse very low, only 7. Thwarted love shows only 91; and jealousy, 23. Losses at play, 6; loss of employment, 25.

Mixture of Tannin in Chronic Bronchitis.—M. Berthel recommends the following mixture in cases of bronchitis of long standing: Take of tannin, three grains; extract of belladonna, three-quarters of a grain; extract of conium, two and a half grains; infusion of senna, three ounces; fennel water, and syrup of marshmallow, of each one ounce and a half. Mix. A table-spoonful to be taken every two hours.

Chloroform in Intermittent Fever.—M. Delioux, a Professor of the French Naval Medical School, has long been engaged in searching for succedanea for quinine. Having observed that when he administered chloroform to phthisical patients, that it not only relieved the pain in the chest and cough, but also moderated the fever and nocturnal sweats, he conceived it might possess febrifuge powers also; and the result of numerous trials is the ample verification of his supposition. He forms a syrup, by adding 5 parts of chloroform to 100 of simple syrup, of which he gives from ℥j. to ℥iij. in a mixture, at the same intervals at which quinine would be given.—*Union Méd.*

Iodide of Potassium in Asthma.—Dr. Stilwell states he has administered this in 5-grain doses three times a day with most marked effect, a slight expectoration of viscid mucus attended with amelioration of the urgent symptoms soon following. The iod. pot. gives the same relief in hay asthma, asthma from perfumes, and the like. He suggests its use in croup, as a means of disengaging the false membranes after the inflammatory action is subdued.

Quinine in the Salivation of Pregnancy.—Dr. Mauthner relates that he has found sulphate of quinine, given in 2-grain doses, prove completely efficacious in cases in which various other means had been tried without success.—*Schmidt's Jahrb.*

Excipient for Pills.—Mr. Stanislas Martin suggests, as preferable to honey, which has been recently recommended as an excipient for pills, the employment of treacle, which is far easier of manipulation, a much less quantity being required. Pills so prepared last soft and flexible for years.

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ESSAYS, MONOGRAPHS, AND CASES.

A History, Chronological and Circumstantial, of the Visitations of Yellow Fever at New York. By JOHN H. GRISCOM, M.D., Physician to the New York Hospital; Fellow of the New York Academy of Medicine.

(Read before the Academy of Medicine, and printed by permission.)

The history of the epidemic diseases of North America dates back to the commencement of the 17th century. It is related in a dedicatory epistle of a sermon delivered by Elder Cushman, at Plymouth, in 1620, just after the Colony arrived, that,

1618-19. "They, (the Indians,) were very much wasted of late by a great mortality that fell amongst them *three years since*, which, with their own civil dissensions and bloody wars, hath so wasted them, as I think the twentieth person is scarce left alive." "It raged in winter, and affected the Indians only."

Noah Webster, in his work on Pestilence, attempts to decide that this pestilence was the fever which has since received the appellation of "yellow fever;" his reliance for this opinion being the statement of Gen. Gookin, as follows: "What the disease was which so generally and mortally swept them away, I cannot learn. Doubtless it was some pestilential disease. I have discoursed with some old Indians that were then youths, who say that the *bodies all over, were*

exceeding yellow, (describing it by a yellow garment they showed me,) both before they died and afterward."

That this was not small pox, (a frequent scourge of the aborigines,) is evident from several circumstances; but the basis (above cited) for the inference that it was Yellow Fever, is too slight, especially when we remember what Webster ignores, that it raged *in winter*, which Yellow Fever never does, at least in Northern latitudes. It was most probably a malignant typhus, with bilious complications, jaundice, and nasal hæmorrhages, of paludal origin. Gookin wrote 40 or 50 years after the settlement of New England.

The same destructive principle devastated the settlers of Virginia, destroying 300 of them in 1619.

1632-37. America, as well as Europe, was severely annoyed by pestilential diseases. In 1633, a "pestilent fever" invaded the little Colony of Plymouth, carrying off 20 of their number.

1668. Malignant diseases again prevailed in America, and the first mention is now made of New York, at which time the epidemic was so fatal, that a fast was appointed in September, on that account. This was possibly the "autumnal bilious fever, in its infectious form."—*Webster*, vol. 1, p. 202.

1695. A mortal sickness prevailed among the Indians in the Eastern parts of this Continent, and a contagious sickness prevailed in Bermuda in the same year.

1699. This malignant fever, whatever might have been its symptoms, was followed by more general sickness. In this year, there raged in Charleston, S. C., and in Philadelphia, the most deadly bilious plague that probably ever affected the people of this country up to this period. It commenced in Philadelphia, about the first of August, and was called the "Barbadoes distemper." "The patients vomited and voided blood;" 220 persons died of it, of whom 80 or 90 belonged to the Society of Friends. No mention is made of its appearance in New York.

1702. The American plague, as it is called by some writers—meaning, doubtless, the Yellow Fever—raged severely in New York, to such a degree that scarcely a patient survived it; and, by some accounts, it was more fatal than any disease since that period. It was popularly known as "the great sickness." One account states that 500 died up to September, and 70 more during the succeeding week, in a population of only 6,000 or 7,000. On account of it, the Assembly was held at Jamaica, Long Island. It was said to have been imported from St. Thomas.

1719–20. A malignant pleurisy prevailed in some parts of America; and in 1720 the village of Duck Creek, in the State of Delaware, was almost depopulated by some disorder, the name or character of which is unknown.—*Webster*, vol. 1, 227.

1723. What was denominated a “burning ague,” prevailed in Rhode Island, which, in proportion to its patients, was never exceeded in mortality in America.—*Idem*, 228.

1732. In the autumn, in New York, there raged a malignant infectious fever, of which died 70 *persons* in a few weeks.—*Idem*, 341.

In the same year the “American plague” prevailed at Charleston, South Carolina.

1741. The “American plague” appeared in Philadelphia and Virginia.

1742. A mortal fever prevailed in Holliston, Massachusetts, of which died Mr. Stone, the minister, and 14 of his congregation.

1743. New York was severely afflicted by the bilious plague, where died in one season, 217 of the inhabitants—a considerable number for the population, which was 7,000 or 8,000. “According to Mr. Colden, in a paper written in this year, it appeared chiefly in parts of the town which were built on swampy ground, from which the water could not be easily drained, and there was a filthy smell from the slips.”

This year is interesting, for having been, as far as our information extends, the date of the first official report of the mortality of this city, which was made by the Mayor, John Cruger. The whole report is as follows:

“*New York*, October 24, 1743. By the Mayor of the city. An account of persons buried in the City of New York:

From July 25 to Sept. 25, 1743.	From Sept. 25 to Oct. 22.
Children..... 51	Children 16
Grown persons.....114	Grown persons..... 36
<hr/>	<hr/>
165	52
	165
	<hr/>
	217

“And I do find, by the best information I have from the doctors, &c., of this city, that the late distemper is now over.

JOHN CRUGER, Mayor.”

Idem, 238.

1745. A malignant bilious fever prevailed in *New York*, of which

an eminent physician, Dr. Nicoll, died. "There appears to be no question that it was the same disease now called Yellow Fever."—*Idem*, 341.

In the same year, an infectious fever prevailed in *Boston*. The Yellow Fever prevailed in *Charleston, S. C.*; and *Stamford, Ct.*, was distressed by a malignant dysentery, which swept away 70 inhabitants out of a few hundred.—*Idem*, 239.

About the same time (the precise year is not known) a malignant epidemic disease laid waste the *Indian tribes*, which, from the descriptions given by the traders, would appear to be, though it probably was not, the infectious Yellow Fever. In consequence of it, the Senecas removed their quarters two or three times in a few years. The disease was said to have been confined to the Indians, the white people living and trading with them not being affected.

1746. The *Mohegan tribe*, between *New London* and *Norwich*, were wasted by the same malady. From an account given by a Mohegan priest, "a man of good sense and integrity," as related by a Mr. Tracy, son of Dr. Tracy, of *Norwich*, who attended them as a physician, and was the only white man affected, the following were the symptoms of this disease: The patient first complained of a severe pain in the head and back, which was followed by fever; in three or four days the skin turned as yellow as gold; a vomiting of black matter took place, and generally a bleeding at the nose and mouth, which continued till the patient died. 100 of the tribe died.—*Idem*, 341.

Albany was this year visited by a malignant disease, called by Col-den, a nervous fever, and by Douglass, the Yellow Fever. The bodies of some of the patients were yellow: the crisis of the disease was the ninth day; if the patient survived that day, he had a good chance for recovery. The disease left many in a state of imbecility of mind, approaching to childishness or idiocy; others were afterwards troubled with swelled legs. The disease began in August and ended with frost, after having carried off forty-five inhabitants, mostly men of robust bodies.—*Idem*, 239.

It was reported that a like disease prevailed in *New York*, and that it had been imported in a vessel from *Ireland*, but we find no account of any such.

1747. A bilious plague prevailed in *Philadelphia*, and, with a slight mortality, also appeared in *New York*.

1748. It appeared in *Charleston, S. C.*

1761. Again appeared in *Charleston*; and it was about this time that the office of Health Officer was instituted, but what gave

occasion to it was the arrival, in 1758 or 1759, of a ship crowded with Germans, in a very sickly state.

1762. It appeared in *Philadelphia*. The summer was extremely hot.

1776. The Mohawk Indians were scourged by a malignant disease.—*Idem*, 342.

1778. A bilious plague occurred in *Philadelphia*.

1780. A bilious remittent fever prevailed in the same city, which, from some peculiar symptoms, received the soubriquet of “break-bone fever.”

1783. A bilious pestilential fever occurred at Fell’s Point, Baltimore, and sporadic cases in various parts of the country. Almost a whole family in New Jersey perished by it in the autumn.

“It is to be remarked as a striking and interesting fact, that during the eight years’ War of the Revolution, no Yellow Fever appeared in the United States.—*Idem*, vol. 2, p. 75.

1791. In New York, the Yellow Fever prevailed in Water Street, in the autumn, in the neighborhood of Peck Slip, which was loaded with every kind of filth. 200 died of it.—*Med. Rep.*, vol. 1, p. 305.

1792. There was little or none in New York, though it occasioned considerable mortality in Charleston, carrying off patients in 3 days.

1793. There was none amongst us but a few solitary cases imported from Philadelphia, the alarm from which was lost in the unfortunate individuals who had brought it from its source.—*Dr. V. Seaman*, *Idem*, 305.

But in *Philadelphia*, in this year, the Yellow Fever spread terror and dismay over the city, sweeping into the grave 4,040 of the inhabitants. A controversy arose among the physicians in Philadelphia relative to its origin, one party tracing the disease, as they supposed, to infected vessels from the West Indies, and the other ascribing it to exhalations from damaged coffee, and filthy streets,—a controversy which was marked by great acerbity, and the unhappy schism which it produced among the citizens generally, as well as the profession. The summer of this year was very hot, after a dry spring.

In illustration of the popular sentiment (at least in the rural districts) respecting another mooted question connected with this disease, viz., its contagiousness, we may be permitted to introduce here, as à propos to the epidemic under consideration, an anecdote from a MS. Autobiographical Sketch of a late professor in one of the Medical Schools of this city. In 1793 he was a student in Philadelphia, and says he, “we had made a pleasant commencement, and just begun

to relish our new pursuit, when the yellow fever, which proved so calamitous in that year, made its appearance. Our school was rapidly thinned by the removal of the inhabitants to the country. I continued until no one but myself remained, and until my teacher himself was seized with fever and confined to his bed. He considered his recovery, I apprehend from the beginning, to be doubtful, and furnishing me with the outlines of his will, desired me to prepare it in due form. Having assisted him in signing it, and perceiving him to be very ill, I was induced, although very desirous to remain with him and assist his wife in nursing him, to yield to their advice and leave the city. * * * I embarked in a sloop for Alloway's Creek, and spent one night on the water, and on the following night I was seized with a heavy chill, followed by high feverish excitement, which was considered as an evident attack of the disease from which I fled. My parents, 8 miles distant, were informed in the morning of my situation, and no time was lost in sending for me. By gentle and cautious travelling, I reached home without being injured by the journey, and found in an airy upper room, and in the faithful nursing of a tender mother, the most grateful auxiliaries to a restoration, which could possibly operate through the medium of the mind and affections.

"My situation excited much sympathy in the Town of Salem, (N. Jersey,) where I was pretty well known, and the attendance of my physician, who resided in the town, was very assiduous, until the fears of the inhabitants for his and their own safety, laid him under a positive interdict, as I grew more and more ill, no longer to enter my room or to go inside of the house. The very atmosphere of our dwelling was considered to be infected, so that travellers along the road, apprised of my illness, would climb over the fences and make a wide circuit, to avoid the danger. But my physician, Dr. Rowan, deeply interested in the case, and touched, I believe, by real sympathy and friendship for the family, though prohibited from seeing me, or coming to the house, continued his daily journeys to a tree above a quarter of a mile distant, where he met my father, learned the symptoms, and prescribed what he thought best. The disease terminated in a dysentery, which being suitably treated, I began rapidly to recover, and was soon restored to health."

1794. Twenty or thirty cases occurred in New York, occasioning considerable uneasiness in the minds of many of the citizens. According to Dr. V. Seaman, in a communication of Sept. 11th, to "the Committee for preventing the introduction of Contagious Diseases," which met regularly, "most of the patients that had been,

or then were, affected with dangerous fevers, were either such as resided in the neighbourhood of the slips, (which then were or lately had been cleaning out,) or whose employment led them to frequent those places." Its chief locality was the vicinity of New Slip, (foot of James Street.) During the very time that these persons were taken sick, the MUD TURTLE, as the machine was called, "was performing its pestiferous purgations in this filthy slip."—*Idem*, p. 306.

In *Philadelphia*, in this year, from 70 to 100 died of this disease, and on the 10th of June it made its appearance in New Haven, Ct., attributable, according to some, to local causes, and according to others, to foreign origin.

1795. Yellow Fever again made its appearance in New York, carrying off 730 persons, at least 500 of whom were foreigners, (452 belonged to one Catholic congregation,) most of whom had been so short a time in the country, that the pastor, Rev. Mr. O'Brien, did not know them.

The first case that attracted public attention, was Dr. Treat, Health Officer of the port, who fell a victim on the 29th of July. It is alleged, however, that 14 days at least, before the death of Dr. Treat, a man in the hospital died of a similar fever, and that another case, a blacksmith, was visited by Dr. Pitt Smith, with a similar disease, early in July. The evidence is, however, clear that Dr. Treat, himself, imputed his final sickness to communication from the sick and dead whom he visited on ship board, especially to the corpse of one which he assisted to bury on Governor's Island.—*Rev. Jno. McKnight, M. and P. Reg.*, vol. 3, p. 293.

It prevailed on the borders of the East River, in the low streets, and what was formerly the swamp, and in the narrow alleys. A small part only of the citizens fled; most of them remained and pursued their occupations in the greater part of the city, with perfect safety.

It occurred also in Norfolk, Va., both in this and the preceding and subsequent years.

1796. In New York, there had been built at Whitehall, the southern extremity of the city, a new dock, 60 feet into the river, with a front of 458 feet, the piles and timbers of which only, at this time, had been put down, forming an immense crib, having an area within of an average depth of 9 feet, and which, for a year past, had been gradually filling in with the accidental accumulations of all manner of filth, street dirt, dead animals, &c., &c. It was estimated to require 24,000 cart loads to fill up this dock, one-third of which, or

8,000 loads of perishable material, being above the ordinary height of the tides, was exposed to the action of the summer sun, while the balance of the mass was but slightly covered with water, at variable depths.

A somewhat similar condition of things was observable at Exchange Slip, foot of Broad Street, which was the receptacle of an extensive common sewer, with a great portion of its muddy bottom exposed at low water. In addition to these circumstances, the adjacent quarters contained a large number of old wooden houses, many of which, built before the raising and paving of the streets, had their lower floors two or three feet below the surface of the pavements; precisely such an arrangement as is observable at the Five Points and its vicinity, and some other parts of the city in the present year, 1856, showing how little wisdom three score years may produce.

It will surprise none to learn that 70 persons lost their lives by inhaling the poison evolved from such a seething mass of corruption. At the foot of Pine Street, and near Burling Slip, also, cases of Yellow Fever, if such it was, occurred, and four deaths occurred within fifty yards of the Roosevelt Street drain; and five others in adjacent streets. The disease did not become general, but was confined to the localities mentioned.

In Wilmington, N. C., it was preceded by dysentery, producing 150 deaths in 130 families. It also appeared in Charleston, S. C., in Newburyport, Mass., Boston, and Philadelphia.—*Med. Rep.*, vol. 1, p. 306. *Webster*.

1797. Yellow Fever appeared in Charleston, Norfolk, Baltimore, and in Philadelphia, where 1,000 persons died of it. 45 deaths occurred in Providence, R. I. It appeared to a moderate extent in New York, causing 23 deaths. Its chief locality then was East George (now Market) Street, and its vicinity. The first case occurred July 1. The patient was removed to the Lazaretto, on Bedlow's Island. Two of his next-door neighbors next fell under its power, and thence it extended itself through the most offensive parts of that offensive street; 10 of these cases occurring in the compass of 17 houses, and 12 around Fly Market, at foot of Maiden Lane.

1798. In the language of Webster, this year "was remarkable for the most general prevalence of the plague that has been known; and in some cities the disease was peculiarly malignant." It has been known since as the year of the "great epidemic." It will long be marked in annals of mortality, and it seemed as if, in the few years immediately preceding, the morbid influences of earth and air and

sky had been training for one grand, terrific, and universal onslaught upon civilized humanity.

The preceding winter was unusually long and cold. The month of May was dry, beyond many previous years. June was remarkable for numerous deluging rains, occasioning severe floods in the Connecticut, Delaware, and Susquehanna. Two or three of the first days of July were excessively hot, succeeded by 20 days of very cool weather, and then commenced a long period of the most sultry weather ever known in our climate, accompanied in some places with great rains.

In Philadelphia, the pestilence made its first appearance in June, increasing rapidly in July, and in August the city was deserted by three-fourths of its inhabitants. The disease was unusually mortal, and extended to the remotest parts of the city, where it had not formerly prevailed. The number of deaths there, was 3,440. At Marcus Hook, 57; Chester, 50; Wilmington, Delaware, 250; and it prevailed in other parts of that State, besides many deaths in Bridgetown and Woodbury, N. J. It showed itself also in Norwalk and Hartford, Connecticut.

It broke out in New York in the first week in August, in Front Street, between Old and Coenties Slips, a place renowned for great accumulations of filthy substances. It disappeared from here, however, by the 26th of the month, in consequence of the active sanitary measures that were adopted, among the most important of which was the covering up of the nuisances with fresh earth.

On the 12th of August, the fever appeared in Water Street, foot of Dover, in an old broken building, where 11 had died in 1795; on the same day, corner of James and Batavia Sts.; also, 51 Cherry St.; 13th at Bruce's Wharf, (Pine Street,) and about the 20th it began to extend and assume a more formidable aspect. Its worst effects were observable in Cliff Street and that neighborhood, between John and Beekman. The aggravating cause in that locality was believed to be the fetid air from large quantities of spoiled beef, stored in the cellars in Pearl Street, on the windward side of this section. These cellars were filled with water by heavy rains, and even by high tides, and were always damp. The effect was augmented by large quantities of pickle, which, in the process of repacking, was discharged into the gutters and suffered to run into a sewer in Burling Slip, producing a very offensive smell. About the last of August, the inhabitants became greatly alarmed; some removed from the east to the west side of Broadway, but a great portion deserted the city. The disease

was unusually malignant, and exhibited frequent bubo and carbuncle.—*Webster*. The number of deaths from it was 2,086.—*Hardie*.

It carried off 200 in Boston. It appeared also in Portsmouth, N. H., in New London, Ct., where it destroyed 81 lives out of a population of 3,000. In one space in that city were 15 houses, inhabited by 92 persons, of whom all but two were attacked, and 33 died; and yet the locality is described as being as well built, clean, and airy as any street in the town.

It occurred in Salem, Mass., and in Albany, also, where about one-half who were seized, died.

In Port Elizabeth, N. J., a place of 19 dwellings and 97 inhabitants, there occurred 13 cases and 6 deaths.

It is a remarkable circumstance, (one which is quoted to sustain the doctrine of importation,) that while these northern cities and villages were sinking under its resistless fury, the Southern ports of Savannah, Charleston, Fell's Point, and Baltimore, were exempt from its ravages, although noted for their insalubrity in the autumnal season.*

1799. It appeared again in Philadelphia and New York. In this city some cases occurred early in July, increasing in August, and attaining its height in September, and declining so much in October as to be nearly extinguished by November.

1800. In this year, the type of the disorder was so mild as to render the name of Yellow Fever of somewhat doubtful application, until towards the latter part of its brief season. It at first assumed the forms rather of irregular intermittent and remittent fevers; it did not commence its attacks until August, and a frost on the night of the 3rd or 4th of October, very soon destroyed the poison. Dr. V. Seaman relates, (*Repository*, vol. 4, p. 250,) "of upwards of 150 persons with this disease, where I attended, all of them, except one, resided (or else had stores, wherein they were occupied during the greater part of the day) either in Pearl Street, or between that and the East River. This one lived on the North River shore, but lodged in a bed that had been immediately before occupied by a sick person, who had been just taken with her complaint, after removing there from Cherry Street." Of these 150 cases, but one died; but Dr. Seaman witnessed a like termination in three others, whom he saw in consultation. Two of them became yellow, with brown dry tongues and coffee-ground vomiting, which sufficiently characterized the disease.

1801. In New York it commenced about the middle of September,

* Currie. Am. and Phil. Reg., vol. 1, p. 189.

and by the last of October caused 140 deaths—besides, of 30 who were sent to the Marine Hospital, a considerable proportion died. Its localities were chiefly East Rutgers and Lumber Streets, where overflowing privies and corrupting offal abounded, as well as moral and physical uncleanness—the inhabitants being outcasts of bawdy houses and others of similar condition of life; and Front and Water Streets, between Coffee House Slip and Fly Market, a great part of which “was made ground, and underlaid and overspread with all that collection of nuisances which length of time and negligence of police could allow to be brought together.” The writers of that day state, that “no reasonable doubt could exist of its domestic origin.”

In this year also it prevailed in New Bedford, though limited to a small compass, the immediate vicinity of a vessel from Demarara, whose crew had been affected with it. The vessel lay at the foot of a dirty and ill-ventilated lane; 8 or 9 deaths occurred. All the persons who sickened had either been on board of her, or lived very near her. She contained a large quantity of damaged coffee.

A few persons died also at the port of Norwich, Ct., with yellow fever, but which, it is said, could not be traced to any arrival from abroad.

It prevailed also with violence, but not for a long period, at Norfolk, Va.; and at Charleston, S. C.

1802. Philadelphia lost 250 by yellow fever. It prevailed also in Baltimore; and in Wilmington, Delaware, where 86 deaths occurred, it was most severe in proportion to the population. 10 died in Portsmouth, N. H.; 96 in Charleston, S. C., (not one of whom was a native of Charleston,) and 60 in Boston. Notwithstanding this general prevalence in these seaports, and various other places, New York remained exempt, one death only being reported. In this year commenced the regular mortality reports, which have been, with more or less care, continued ever since.

The first of these was made out by an esteemed citizen, John Pinard, who argues their value in his peculiar quaint style, remarking among other suggestions, that “the progress of increase and population can be estimated by these tables, which, to be rendered more complete, ought to be accompanied by those of births and marriages. The melancholy back-ground of mortality ought to be relieved by the more cheering and enlivening scenes of nuptials and christenings.”

1803. It commenced in Philadelphia on the 19th of July, and in New York on the 17th. In the former place, it commenced at three different points on the Delaware side, $\frac{1}{4}$ of a mile separate from each

other, within the space of 9 days, no communication whatever being traceable between the patients. A sudden and extensive depression of the thermometer lulled the disease for several days, when a reverse change occurred, the atmosphere becoming humid, warm and oppressive—a dreadful fire broke out almost simultaneously with this change in the elements, the concurrence of which circumstances relighted the pestilential flames, which continued with varying intensity until about October 20th—195 died of it. In reference to this epidemic in Philadelphia, Dr. Charles Caldwell remarks: “The shadows of night do not vanish more precipitately or certainly on the approach of the sun, than their dreams of importation recede from the touch of rigid inquiry.”

In *New York* it commenced at Coffee House Slip, and was observed at the same time in several other parts. The weather during the greater part of July was intensely and uniformly hot, the thermometer being frequently above 90° and rarely below 80°, and the nights brought little relief to the oppressiveness of the day. The streets lying near the margins of the two rivers, and those inhabited by the poor, uncleanly and dissolute classes of the community, suffered the principal ravages of the disease. The deaths amounted to between 600 and 700.

It was more generally diffused than before. The 186 patients admitted to Bellevue Hospital were from fifty-seven streets, mostly on the east side of the city. Proofs of its domestic production greatly accumulated this year. One person was attacked in the Debtor's Prison, who had not been beyond its walls in 3 months.

In the village of Cattskill it prevailed severely, where it was attributed to the putrefaction of a large mass of fish; rigid inquiries, it is said, failed to establish any reason for belief in its importation from any other place.—Vols. 7 and 8, *Med. Rep.*

Alexandria was visited by it to a severe extent, commencing in July. The population of that place was estimated at upwards of 6,000, at least one half of whom left, and yet the number of deaths was upwards of 200. The evidence of a domestic origin of the disease in this place was alleged to be very clear; at least it is stated that there was no arrival of any vessel from abroad to which it could be traced, until 10 days after its first appearance there.—*Med. Rep.*, vol. 7, 190.

1804. The summer and autumn were distinguished by a singular mildness of temperature, and no malignant epidemic took place in any of the Atlantic cities.

1805. The temperature in the latter part of June, and till 20th of July, was oppressively hot, though a suspicious case of malignant fever occurred during the mild weather of the *early* part of June, in Roosevelt Street. The man recovered at the Marine Hospital, and no other case occurred until July 9th, when an ostler, recently from England, was attacked in a livery stable, in an alley in Maiden Lane. He died on the 13th day of the accession at the Marine Hospital; and two others belonging to the same stable, also recently from Great Britain, were taken ill with the same disease, but recovered at the Marine Hospital. The next case was on the 24th of July, in Water Street. The cases soon became more abundant, and were much dispersed over the city, though chiefly confined to the eastern side of the city, though it extended, by the middle of September, to the margin of the North River, and prevailed in Greenwich Street and the adjacent parts of the town, till the close of the epidemic. Six hundred cases were reported to the Board of Health. The number of deaths in the city, at Bellevue and Marine Hospitals, was about 300, exclusive of about 40 who died after their retreat into the country. 43 cases are stated to have occurred in the State Prison, (then in this city, at the upper end of Washington Street.) The Board of Health declared the principal seat of the prevailing disease to be that part of the city included between Burling Slip and Old Slip, as far west as Pearl Street, covering not more than 33 acres. De Witt Clinton was then Mayor and President of the Board of Health. One account states, that "no practitioner of physic in New York suffered any attack of this disease."

Between 300 and 400 deaths occurred from it in *Philadelphia*. It appeared also at New Haven, Providence, Newport, Norfolk and Charleston, and some sporadic cases in Boston and Baltimore, as well as in many other towns near, and at a distance from, the seaboard.—*Rep.*, vol. 9.

1806. "Though nothing approaching to an epidemic took place, several cases of Yellow Fever, highly and exactly characterized, were observed in the course of the season from June to November, in this city, and served to show what might have been reasonably apprehended from a more unfavorable course of the weather."—*Med. Rep.*, vol. 10, p. 214.

Two deaths by "malignant fever," only, are noted in the bill of mortality.—Vol. 11, p. 38.

1807. During this season only a very few sporadic cases of Yellow Fever were observed in the City of New York—not exceeding

20. Most of these occurred in September, or early in October. Four of them were in the New York Hospital.

In Charleston, S. C., it commenced about the middle of August, and proved fatal, by the 2nd of November, to 176 persons, who were almost exclusively strangers.

1808. The summer and autumn passed without any alarm of the malignant epidemic which, in so many previous years, had visited the Atlantic cities. This, and the two preceding summers were noted for their remarkably moderate heat.

An exception to the general exemption of the American cities from Yellow Fever was experienced by the small town of St. Mary's, on the river of that name, which then formed a portion of the southern boundary of the United States. This town was nearly depopulated by the disease.

The question of the *prime source* of the disease in this instance, would appear to be clearly settled on the side of *importation*. During the spring and summer the town was (as usual) remarkably healthy. During the latter end of August and first part of September, there were continued heavy rains, which filled the low grounds, and the water lay on the surface for some time; the wells were full to the surface, and the water became bad and offensive, yet no change in the health of the inhabitants occurred till September 5th, when a coasting packet, which was employed in carrying corn and a variety of provisions between that place and Savannah, and was in a distressingly foul state, arrived with two sick sailors, one of whom died in a few hours, and the other lingered for some time. A white citizen and a free black, both of whom attended these sick sailors, died—the first on the 9th, and the other on the 10th. The fire thus lighted, spread rapidly, fed by the state of the ground, a quantity of rotten provisions stored by speculators and smugglers, and the exceeding neglect of the health officers and police of the town.

A census taken the year before, showed a population of 350 whites and 150 blacks. By the 2nd of October, not more than 100 whites remained, sick or well; of this number, upwards of one-half died.

There were in the town about 30 French people, who were very useful in attending and relieving the sick, not one of whom had the prevailing fever.

The difference of mortality between the whites and blacks was also a remarkable circumstance.

Of 87 whites taken sick, 42 died.

Of 45 blacks taken sick, 3 died.

The exemption of the French residents was attributed to their mode of living, their diet being entirely very light food, vegetables, and thin gruel, and no flesh meats; their drink, lemonade.

Doubtless the light mortality of the blacks might be due to similar circumstances.—*Med. and Phil. Reg.*, vol. 3, p. 417.

1809. The city of New York remained free from malignant fever, but the neighboring village of Brooklyn suffered from it. It appeared there early in July, and continued in a greater or less degree, till late in September. Between 30 and 40 persons died of it, and nearly 20 persons were attacked in this city who had been exposed to the noxious air of Brooklyn—to a large portion of whom it proved fatal. This attack occurred in a season of unprecedented mildness.

It appears to have commenced at the margin of the water, and was confined to a circle of 200 yards, semi-diameter, from a ship (*Concordia*) which had recently arrived from Havana, the first patient being one of the hands of said vessel—Havana being infected with Yellow Fever at the time of, and four months previous to, her departure.*—*Med. and Phil. Reg.*, vol 1, p. 101.

Eight cases occurred at Charleston, S. C., amongst strangers, all of whom died, and a few sporadic cases were seen in *Philadelphia*.

1810–18. The city of New York appears to have been entirely exempt from all appearance of Yellow Fever, nor do we find any record of its occurrence in this vicinity, except in

1811, when it made its appearance at Perth Amboy, then an entrepôt of considerable importance. The Board of Health of New York appointed a committee consisting of Drs. Jos. Bayley, Jno. H. Douglas, and David Hosack, to investigate the facts respecting it. They proceeded to that locality and made a minute investigation, and reported four deaths from, and three other cases of, undoubted Yellow Fever, one of which subsequently died, with a few others of more

* The advocates of the theory of the domestic origin of the disease on this occasion, attributed it to an extraordinary assemblage of nuisances in the lower parts of the town of Brooklyn, consisting of a variety of putrefying vegetable and animal substances, together with water lodging in many low, sunken places, and also that it was partly owing to the contents of the "Mud turtle," (a machine for cleansing docks,) being exposed for some days on the wharf of New Ferry, so as to be offensive to the neighborhood. It was satisfactorily shown, however, that no more filth was observable in that vicinity than for several years previous, and that the operations of the mud turtle were not commenced until fifteen days after the first case of Yellow Fever had occurred, and that the mud removed by it consisted of an innocent blueish clay, which was quite odorless.

doubtful character; and their conclusion was unanimous, confirmed by the judgment of the physicians and residents of the place, that there were no local causes to which the calamity could possibly be referred, and that it was derived solely from vessels from the West Indies, twelve having arrived from there between June 1st and the breaking out of the fever. It was traced more distinctly to two, the ship *Favorite* and the brig *Ocean*, both from Havana. Every case was traceable to these vessels, and none took the disease from them. Non-intercourse with Perth Amboy was declared by the authorities of this city and Philadelphia, until its disappearance thence was satisfactorily established.

1819. Old slip and its vicinity (the foot of William Street) was the scene of another irruption of the Yellow Fever, though to so moderate an extent as scarcely to deserve the title of an Epidemic. It was confined almost exclusively to the vicinity of its first appearance. Out of 57 cases, 34 or 35 occurred in a single block, on the West side of Old Slip, between Front and Water Streets. It was a space anciently called "Rotton Row," where long and contested claims between the Corporation and the estates of some private individuals prevented the ordinary improvements, which might have purified or renewed the ground. The slip then extended as high as Front Street; (it is now filled and paved up to the Eastern or outer line of South Street;) was shallow, and its sides, like many others, composed of wooden piles, thick, uncovered, rotten, worm-eaten and coated with black mud, which, besides being the receptacle of the animal exuvæ and decayed matter, which naturally accumulated in such a place, from the surface, was likewise the place of disemboguing of a private sewer, which extended up to Pearl Street, across Hanover Square to Sloat Lane.

Of 83 persons sent to Fort Richmond, on Staten Island, which, with the consent of the Government of the United States, was occupied by the poor of New York, under the care of the city authorities, ten were taken sick with the disease, and three of them died in the Marine Hospital. It commenced on the 5th of September. The district, extending from Coenties Slip up Pearl Street to Wall Street, and down Coffee House Slip to the river, was fenced in, was declared infected, its inhabitants urged to remove from it, and the shipping at its water front all sent away, and a strong guard appointed to protect the property, with a pledge of medical aid in case of sickness, and a liberal remuneration. Whole number of cases reported, 63; deaths, 38; besides a few others out of the city.

In Boston this year it also made its appearance, as well as in Baltimore and at Fell's Point, Charleston and New Orleans, at which latter place it was exceedingly severe. Of its degree of prevalence here and at the other places named we have no precise information, although at all of them, it is asserted, that it made its commencement in every instance, and continued its existence almost exclusively, at the margin of the water, in the immediate vicinity of the shipping.

1821. The yellow fever made its appearance in St. Augustine, a place the salubrity of whose climate and atmosphere are almost proverbial. Here it commenced about the first of September, and terminated near the close of December, within which time 140 were attacked, and 132 died.

1822. Heretofore, almost without an exception, this dreaded pestilence had selected as the scenes of its manifestations, those portions of the city of New York which lie along the borders of the East River. From Whitehall to Roosevelt Street, at various spots in different years, but, be it always remembered, in the immediate vicinity of the slips, and of course of the shipping, the yellow fever had its favorite localities, whence it spread, as from a centre, over areas varying in extent, from time to time, as circumstances favored its growth and diffusion.

The scene of its irruption was, however, now altered, and the opposite side of the city was for the first time to feel its blighting influences. And another important variation in the circumstances, (important in its bearing upon the question of domestic or foreign origin,) is now to be noticed, viz., the *condition* of these localities in relation to their power of producing the disease *de novo*.

In the vast accumulations of filth of every description, in the docks and slips, and in the depraved and vitiated position and character of the dwellings and inhabitants of the quarters heretofore infected, the advocate of the theory of the domestic origin of yellow fever found strong reasons for the faith that was in him, but the circumstances, as well the scene, are now changed.

In Rector Street—a narrow but short and rapidly descending street, commencing at Broadway, between two large and elegant churches, and in its brief descent to the North River having on either side but a few dwellings, and those occupied only by the most cleanly families, and crossing only two streets before reaching its other terminus, Greenwich and Lumber Streets, the former then for many squares the home of the wealthiest and most refined of the inhabitants of New York—in Rector Street, would the non-importer of yellow fever fail

to find so much as a square foot of soil capable of emitting the poison. On the 10th of July, two little girls, children of Mr. Reder, a cooper, having a shop on the corner and residing in Rector Street, next the corner of Washington, (which latter street then faced the river,) and a young man named And. Thomas, a clerk in a grocery on the opposite corner of the same streets, were attacked with symptoms which afterwards were distinctly recognized as those of yellow fever. One of the girls and the young man died on the 17th, the other girl recovered. On the 15th a son of Reder, aged 16, was attacked and died on the 22d. In a few days it showed evidences of expansion, but not, unfortunately, of attenuation or dilution; it soon gave proof that it could "spread undivided, operate unspent." From the spot where it began, it spread slowly and regularly in every direction. In less than a month it had mounted the declivity of Rector Street, half way to its summit, and stretched a considerable distance along Washington and Greenwich Streets, north and south. On the 19th of August, it showed itself in Cedar Street, and soon after in Liberty Street. By the 23d of August, it had reached the further end of Rector Street, on Broadway, which it now crossed, and descended Wall Street to New Broad Street, and passing down Garden Street, met the Wall Street current at the corner of Garden and New Sts. In the old Sugar House in Liberty St., next the old church, now Post Office, it proved very fatal. It finally ascended as far as the Park on Broadway, and swept the whole of that part of the city lying below Fulton Street. The former localities of the fever, Cœnties, Burling, and Old Slips, though furnishing evidence of its existence there, were not affected till near the middle of September, and then gave comparatively few cases, doubtless in a great measure to be attributed to the general stampede of the inhabitants.

This was, however, not the only infected district. On the 16th of September, three cases were reported at No. 4 Lombard Street, (now Monroe Street,) and on the 20th, 5 cases occurred in Cheapside Street, (now Hamilton Street,) a short distance from and parallel with Lombard, but a remarkably cleanly street. This locality, as just stated, was a very cleanly and decent place, containing not more than 60 houses, and those not crowded—and was within a few hundred feet of Bancker Street, which was famous for being the very reverse in its physical and moral characteristic, and was the scene of a destructive local distemper of a peculiar nature three years previously.

And yet, while there occurred among the persons living in and

frequenting the former, 46 cases and 28 deaths, amongst the latter there was not one reported. The origin of the first case which occurred in this locality, which was at least half a mile from any part of the other infected district, is asserted by the historians of that epidemic to have been distinctly traced to exposure to the atmosphere of the latter.

The whole number of cases which were reported to the Board of Health as having occurred between July 10th and November 5th, when the disease terminated, was 415, of whom over 230 died. The precise number of deaths is not known from the records of the Board of Health, a large number of cases having been removed to the country, to the suburbs of the city, and to Marine Hospital. These figures would have undoubtedly been swelled ten-fold but for the voluntary desertion of that portion of the city by the wealthy, and the compulsory removal of others to distant places.

As to the source of the disease of this occasion, there appears no other mode of accounting for it than its introduction from Havana, by means of four cargoes of sugar, brought to the city from Quarantine, from vessels which were there detained in consequence of their infection with Yellow Fever, on two of which deaths had recently occurred. Between the 1st and 9th of July, twenty-four lighter loads of boxes of sugar were brought from these vessels at Quarantine, were landed at and near the foot of Rector Street, and stored in the adjacent warehouses. The first cases of Yellow Fever on shore, it will be remembered, occurred on the 10th July.

From 1822 until the present time, a period of 34 years, we have rested in repose from any serious apprehension of a visit from this dire enemy of our race—a most striking contrast with the thirty-four years immediately preceding, in which period there were seventeen visitations of it. And this is notwithstanding its continued prevalence from year to year in the Southern ports of the Union, and even last year coming so near to us as Norfolk, Virginia, where it prevailed with intense malignity.

The present year has not been without exciting apprehension among our citizens, in consequence of its abundant appearance at Quarantine, and its spread to a considerable extent over our sister city of Brooklyn, in aggravated imitation of its operations there in 1809; but, happily, we have escaped with only the few sporadic cases incident to our proximity to those scenes.

The history of the epidemic of the present year is yet to be written; we have not yet seen its conclusion.

With the questions which have so often and so deeply moved the intellects and feelings of both professional and non-professional men, in days of yore, viz., the contagiousness and the origin of Yellow Fever, your Committee have in this place no concern, any further than as we are instructed "to report upon its relations to the sanitary condition of the city in the present and past years;" and in concluding the task imposed upon us by the resolution of August last, we shall endeavor to satisfy the demands of public duty, by the presentation of a few general considerations, derived from the research which has resulted in the foregoing chronological outline.

Coming to this investigation as with the mind of a student, wholly unbiased, desirous of seeing only facts, and determined to be influenced by nothing else, we have found an abundance of that only true basis of philosophy; but in too many instances overlaid by so huge a mass of special pleading and perversion, as to satiate us, *usque ad nauseam*. If, as has been truly said, "History is philosophy teaching by example," how important is it that the facts, which alone make history, be examined and understood without prejudice or bias of any kind. In this spirit of impartiality we have endeavored to penetrate to the bottom of the well, in which the truth lies concealed, in order to present those rules of prophylaxis and defence most clearly indicated by the habits and laws of the disease in question, and from the facts pertaining strictly to the relations which it bears to the City of New York, to indicate the course which we think the medical profession and the public authorities should pursue.

Yellow Fever being a disease resulting from the infusion into the human system, through the respiratory and perhaps the cutaneous organs, of certain influences which are of a vehemently poisonous and deadly character, producing great perversion of function, and disorganization of fluids and solids, it is necessary to determine, in the first place, the source of the poison or the channels through which it comes to us. That it is invisible, intangible, and inodorous, will be admitted on all hands; that it is the product of combined terrestrial, vegetable and animal emanations, high temperature, and other peculiarities of certain latitudes and seasons, will be disputed by but few, if any; that it is a disorder of a peculiar type, as distinct from any other as small pox is from measles, any one of experience in diagnosis need but look upon it to be convinced. The question then arises, In what latitude and localities does it or can it originate? and this, as far as we are directly interested, brings us to the question, Has it ever originated or can it originate here at our own doors? Is any combination of terres-

trial and meteoric circumstances possible, in *this* latitude and climate, from which this venom can be evolved?

As just now stated, on this question your Committee are not called upon to *express* an opinion; and though they may entertain a decided view upon the subject, it is their duty to look upon it only in its relations to the public sanitary interests of this great city, and to recommend such a course as will best conduce to their preservation.

True history alone can solve this intricate problem. The domestic origin of the poison is asserted by numerous writers, and in many instances of proof quoted by them, reasons of plausible character, based upon apparently well-authenticated facts, are urged in support of their views. We say *apparently*, because at this distance of time, and in the impossibility of cross-examination as to the facts, we can only yield a passive acquiescence to many of their statements. And in view of the importance of the subject, prudence would also justify an acquiescence in the theory of its *possible* domestic production, *provided* always that we, at the same time, do not ignore the existence of the incontrovertible proofs of its importation from abroad, and the necessity of a vigorously enforced quarantine at whatever cost.

Such shocking collections of all that was vile and offensive, as we know to have existed in the numerous slips and docks, in the unpaved streets and alleys, and the crowded cellars of this city, in the latter part of the last, and the early part of the present century, were cause enough for miasmata of some kind, capable of sweeping off scores and hundreds of the people living adjacent; and whether the atmosphere of these localities was a direct provocative of yellow fever, or served only as a richly manured soil in which the germs of that disease, introduced from abroad, would grow with redoubled vigor, it matters not to us practically. It is enough to know that such conditions of things are inimical to human life, and should never be permitted. Sad experience has too often shown, that in them there exist, wanting only the proper time and temperature to leap into active life, the seeds of evils as numerous and pungent as Pandora ever dreamed of.

It is nevertheless at least a coincidence, that in such a depraved condition of its Eastern margin, New York sustained in 16 years, (from 1791 to 1807,) 13 attacks of yellow fever, causing the death of at least 5000 persons, and each time compelling the flight from their homes and occupation, of many thousands of the population. And it is another interesting fact, that since the year 1807, New York has been visited by it but twice, viz., 1819 and 1822, and the latter visitation was on the opposite side of the city, against which no

complaints of nuisances could be made; and the commencement of this period of exemption was moreover coeval with the enforcement of a law for the filling up of these slips, and the general improvement of those ancient haunts, in which the opponents of its importation so clearly saw the domestic source of the disease.

Whatever consolation, therefore, the advocates of domestic origin may derive from these facts, they are fairly entitled to, after we have stated some other remarkable coincidents which bear strongly upon the opposite doctrine.

The circumstance which was quoted from N. Webster, that during the revolutionary war our country was not visited by yellow fever, *he* would doubtless attribute to an interposition of Providence, though he does not hold so in express language. He speaks of it simply as a "striking fact," in the middle of his labored effort to prove the source of nearly all epidemics to lie in local domestic circumstances, in combination with meteoric influences, and the appearance of comets. A more rational solution of the circumstances may, we think, be found in the fact, that during the war nearly all foreign commerce was suspended.

In relation to the localities at which the fever invariably appeared, before 1822, attention has already been drawn to the fact, that they were upon the borders of the city, and of course in the immediate vicinity of the shipping, where importations of every kind were first received; while at the same time there existed in the centre of the city other localities, the receptacles of all manner of filth and nastiness, in whose neighborhoods the fever not only did not originate, but which were, in fact, exempt from its incursions when it prevailed elsewhere. Of these places the most noted was "the Collect," in Centre and Canal Streets.

The next coincidence to be remarked in the relations of this city to the yellow fever, is this, that it was not until the commencement of the present century that our Quarantine laws took a definite shape, and sanitary enactments were enforced with the vigor which now characterizes them. It was only in 1805 that infected vessels were prohibited from coming within 300 yards of the Island of New York, after being discharged of their cargoes; while the law of 1806 even restricts vessels from the West Indies and the Mississippi, arriving between June and October, to only 4 days' detention at Quarantine, and prohibits intercourse between their crews and the city of New York, except under regulations of the Health Officer. And since a year after that time, though yellow fever has frequently hovered along

our border, it has on but two occasions, up to the present year, planted its foot beyond.

These, then, are the premises from which, as conservators of the public health, we are to draw our conclusions of duty with respect to yellow fever:

1st. To maintain a thorough condition of cleanliness and purity in all the borders, and throughout all the interior of the city.

2d. By a rigid continuance of the Quarantine, to watch its approaches from abroad, and arrest its progress ere it reaches even our threshold.

Supplemental Report on Yellow Fever.

(Read August 5th, 1857.)

In the Report on "Yellow Fever and its relations to the sanitary condition of the city in the present and past years," presented to the Academy of Medicine, in October last, by the *Section on Public Health and Legal Medicine*, a review was given of the different attacks which New York had experienced up to the year 1822, the date of its last appearance within the precincts of the city. The attack of 1856 being then incomplete, the account of its appearance and prevalence in that year was left for future consideration; so that, unbiased by any of the conflicting views of different parties, we might, when all the facts connected with its advent and progress had become winnowed out and established, arrive, if possible, at a clear, judicial understanding in relation to it. The Section propose now to complete the work assigned them, and believe that their fellow academicians will find in the facts and views which will be presented, an interest equal to their own.

The history of the manner of attack, and the extent of Yellow Fever in this vicinity, in 1856, have been detailed with great particularity in his report to the State Legislature, by Dr. Elisha Harris, then physician of the Marine or Quarantine Hospital. To this able document the Section refer for a more complete exposition of the facts connected therewith, while we shall content ourselves with a recapitulation of the main points, and a few remarks upon some of the questions which have agitated scientific circles respecting the circumstances which have controlling or modifying influence over the origination, communicability, and power of extension, of the disease.

The most recent theory respecting the relations of Yellow Fever to terrestrial and atmospheric circumstances, and which has arrested the

attention of medical minds in a powerful degree, is that advanced by the New Orleans Sanitary Commission of 1853.

The doctrine of the causes and controlling influences of Yellow Fever, as laid down by that able board of professional gentlemen, as understood by us, is as follows: 1st. That there must exist in the soil such a condition of animal or vegetable, or a combined animal and vegetable material, as by the decomposition thereof a malarious agency will be emitted, capable, upon being received into the human system, under proper circumstances, of developing that peculiar disease. 2nd. That in order to give efficacy to the poison power of this terrene malaria, a certain condition of the circumambient atmosphere is necessary; which atmospheric condition consists of a combination of two distinct elements, viz., a *high temperature*, and a *high degree of humidity*.

To illustrate this position, the report of the Commission employs the figure of the "Shears of Fate," of which, one blade represents the terrene, the other blade, the atmospheric circumstances. In the absence of one or the other of these parts, the remaining one is powerless. Thus, though the necessary terrene exhalations be ever so abundant, if the temperature of the air be not high enough, and the atmosphere does not contain a sufficient amount of moisture, Yellow Fever will not ensue; and, *vice versa*, if the temperature and moisture of the air are at their highest point, and there be no appropriate terrene emanations, no danger will exist. The shears are themselves shorn of their power; but one blade exists, a harmless instrument. But by a combination of all these circumstances—by upturning a deleterious soil, and exposing it to a tropical atmosphere replete with vapor, then we have every reason to apprehend the appearance not only, but also the epidemic prevalence of Yellow Fever.

Such is the doctrine enunciated by the New Orleans Commission, which they maintain has been verified in that city and other places; which has been given to the world in their elaborate and learned report, and which was last November boldly and eloquently proclaimed from this rostrum, by one of that commission's most learned members, Dr. E. H. Barton, as of sufficiently frequent observation to justify its establishment as a *law*.

The position thus assumed, is, if correct, one of vast importance—the only theory, in fact, ever presented of a really philosophical and practical character; and of sufficient amplitude to cover all cases; and, from the evidence adduced, seems justified, so far as the city of its birth is concerned. At any rate, it is not within our province, under

the resolution of last year, to criticise the theory as it relates to any other locality than our own; but it appears to be our duty to inquire into its applicability to the epidemic visitations of Yellow Fever to this city and vicinity, and to this extent, and by that light, we propose now to complete the labor assigned us by the Academy.

From the years 1791 to 1807, inclusive, this city experienced eleven attacks of Yellow Fever. It did not appear again till 1819; and all of these attacks had their locality on the southeastern margin, in the vicinity of the wharves of the East River.

Besides these, in 1809, it broke out in Brooklyn, destroying between 30 and 40 lives; it was there confined entirely to a well-defined area of about 200 yards semi-diameter, the centre of which was a vessel from Havana, on board of which the first case occurred. It did not extend to the New York side of the river.

In our former report, allusion was made to the difference in locality of the disease before and after 1820. Prior to that period, every eruption of it was on the East River border, while in 1822 it suddenly shifted its point of attack, and for the first time the western margin of the city, on the Hudson River, received its approaches, and over the adjacent streets it swept with desolating marches. Nor were the topical characteristics of these localities less marked than their geographical positions.

While the former were, from all the accounts we have read, low and marshy, and pregnant with an abundance and great variety of filth, natural and acquired, the opposite side was equally opposite in character. If such a term can be applied to any class of inhabitants in this land, it was the aristocratic quarter; the residence of a population, aristocratic at least in cleanliness, and the cultivation of the elegancies of life, and did not present a square foot of soil from which such a fatal miasm could possibly have emanated; nor was it charged by the most strenuous of the domestic-origin theorists, that it could have originated from any other locality than the graveyard of Trinity Church, and even that idea was soon abandoned as untenable.

With respect, therefore, to the theory of the *exclusive* domestic origin of Yellow Fever in this city, we had then and there a case in which that idea was inadmissible, and the circumstances connected with the landing at this very point, of large cargoes of produce from vessels recently from ports where Yellow Fever prevailed, and which were themselves infected, are abundantly sufficient to establish its exotic origin and importation. With regard to its source, in the attacks experienced on the eastern side, all of which were prior to 1820,

we have, perhaps, sufficiently discussed that question in the conclusion of our former report, and it will suffice here to express the opinion, that the evidences of its domestic origin, though at first sight numerous and somewhat powerful, are either susceptible of other explanations, or are outweighed by strong negative, if not positive testimony of opposite character. This consists of the fact, that other quarters of New York were equally, if not more filthy than the slips and docks of the East River, and, therefore, more capable, under the theory of its domestic origin, of producing the disease; yet it was unknown in those localities; and further, that the places where it appeared were the wharves at which the shipping from infected ports hauled in and discharged their cargoes, and the vicinities of which were frequented by their crews. And furthermore, it must not be forgotten that its frequent repetitions prior to 1808, *ceased simultaneously with the adoption of new and vigorous Quarantine laws.*

1856. Commencement and progress of the Yellow Fever of 1856, at the Port of New York, (*as given in Dr. Harris' Report.*)

April 10th. The first case observed this year was admitted to Marine Hospital from a vessel from Havana.

June 18th. The "Julia M. Hallock" arrived with three sick, and three lost on the passage from St. Jago de Cuba.

June 21st. The "Jane H. Gliddon" arrived from Havana, with several sick, and two deaths on the passage. As part of her cargo she had several bales of uncleansed rags.

July 2d. The "Eliza Jane" and "Lillias," from Havana, with one sick each. E. J. lost three on the passage.

July 6th. "Lady Franklin," from Havana to Trieste, put in in distress, all hands sick; two died on the passage.

From June 18th to July 15th, a period of 27 days, 27 yellow fever infected vessels arrived at Quarantine.

July 12th. A marked case of yellow fever was received in the Marine Hospital, from 14 Oak Street, (the first one known in New York city,) with black vomit. The patient had arrived from Ireland, July 3d, in a vessel which had anchored at Quarantine, in the midst of the infected fleet. He remained in the ship over-night, and was subsequently landed at Castle Garden, and was taken sick a week afterwards.

July 14th. Two persons were taken sick in the Quarantine village, who had been unloading cargo from the "Gliddon" and "E. Jane."

July 15th. A lighterman engaged in conveying cargoes from Quarantine to Atlantic Dock, was taken to the Marine Hospital, with the fever.

The whole number of infected and suspected vessels arriving up to October 4th, was 79.

July 29th. It made its advent on *Governor's Island*, producing in four weeks 64 cases, but being confined wholly to the "South Battery," which is nearest and most exposed to the Atlantic Docks, and separated therefrom only by a narrow channel.

July 22d. It commenced in epidemic form at Marine Hospital, 25 of the officers and employees, and 8 other residents were affected, of whom 5 died.

July 11th. Two men employed by Mr. Bergen, on Hunt's Place, a little below Greenwood Cemetery, opposite Marine Hospital, went bathing Saturday evening, July 11th, and examined a quantity of straw left on the beach by the receding tide, and removed it to the farm yard. One of these men was attacked on Monday, and the other on Tuesday following, and both died with black vomit. After their death, two other laborers were hired, lodged in the same room; both successively sickened and died with black vomit.

July 27th. By this time 14 cases, 10 of which proved fatal, had occurred on the Long Island beach, opposite Marine Hospital.

August 1st. Fort Hamilton district was attacked. It attacked the shore line from Gravesend Bay and Gowannus, about 4 miles, at three nearly equi-distant points.

September 10th. It was received into a house at Partridge's Mill, near Coney Island; the persons affected were believed to have handled materials which had floated ashore.

Fifty cases in all were admitted to Marine Hospital from New York City, 8 of which were traceable to Brooklyn, and nearly all the others directly to infected vessels.

July 23d. A man from Bergen shore, New Jersey, was admitted to New York Hospital, a farm laborer, and had not been absent from the farm for a long period. He died next day.

September 4th. Four persons, citizens of New York, who had been 2 or 3 weeks at Craven Point, Bergen, N. J., were admitted to Marine Hospital. Two of the family had died previously. The dwelling they occupied was nearly surrounded by water at high tide, and much refuse material was frequently left on the beach. The owner of the dwelling suddenly sickened and died, and his widow had subsequently been ill, but recovered.

"The total number of well-authenticated cases of yellow fever occurring in the various localities in the vicinity of the port of New York, during the summer and autumn, (of 1856,) as ascertain-

ed by the most rigid investigation, was *five hundred and thirty-eight*. More than one-third of this number died of black vomit." (*Dr. Harris' Report*, p. 39.)

It is quite probable that the number of cases recorded as having occurred in New York and Brooklyn is incomplete, but we think it will be entirely safe to set down the whole number of cases which occurred within a circle of 5 miles radius, having its centre at the Marine Hospital, at much below 600.

From this brief summary of the circumstances of the attack of 1856, no one can reasonably hesitate as to the true source of the disease on that occasion. We have seen that the first case occurred as early as April 10; this, under the most liberal construction of the New Orleans theory, with the thermometer at only 50°, could not have been the produce of domestic causes; and besides that, we are told that the case was taken to Hospital, from a vessel from Havana. More than two months then elapsed before the occurrence of another case, which was from a like source, on 18th June, from which date, in 27 days there arrived 27 infected vessels.

With such abundant cause as this for all that followed, both on land and water, during the next three months, we could not be seriously asked to scrutinize the adjacent shores in the hope of a disclosure of some upturning of soil, upon which to cast the burden of causation. We have nevertheless made inquiries upon the subject, from intelligent residents of the section most seriously affected, and failed to find *any ground* whatever for such a conclusion.

But there is another circumstance of interesting character, which cannot be regarded as a mere coincidence in this history. In speaking of the meteorological phenomena of the season, Dr. Harris remarks upon the record kept at Fort Hamilton "between the 21st and 30th July, the wind was continually from the southwest during the afternoon of each day, while the temperature ranged unusually high, and was accompanied with a corresponding degree of humidity of the atmosphere," p. 59. (The wind prevailed also in the same direction *all day* in 6 of those 9 days.)

Now, by an inspection of the map accompanying Dr. Harris' Report, it will be seen that this S. W. wind was in a direct line from the fleet of infected ships near Gravesend Bay to Fort Hamilton, and it was at the end of that time, viz., on the "first of August, the pestilence set its fatal seal on the Fort Hamilton district. On that day, Gen. Stanton died, and as his mansion was situated on an elevation which looked out on Gravesend Bay, and was surrounded North and

West by a dense grove, it is fair to presume that the deadly infection was wafted to his delightful residence by the winds which swept over the infected shipping at Gravesend," p. 55. From that date to Aug. 8th, 12 cases occurred in the Fort, and thence it gradually spread, and uniting with the infected atmosphere at the other points of the same vicinity before alluded to, it soon covered with its fatal pall the whole sweep of that beautiful locality; yet, nevertheless, (a fact hard for domestic theorists to explain,) confining itself to a belt not over 300 yards wide, though stretching four miles along the shore.

There are few persons who, after this recital, we apprehend, will deny the importability of the Yellow Fever miasm, in the cargoes and holds of vessels from infected ports, and its communicability to others who may go on board of them after their arrival at this port. If any such there are, we would recite for their consideration the following case, kindly furnished us by Dr. Elisha Harris, from the Quarantine history of the present year, 1857, not as a new or rare case, but because of its perfectness and entire invincibility:

253 4TH AVENUE, *July 13, 1857.*

JNO. H. GRISCOM, M.D.,

Dear Dr.—The first vessel subject to Quarantine restrictions on account of Yellow Fever, this season, was the "Lucy Heywood," that arrived at this port from Gonaives, June 12th, having lost captain, mate, and two seamen, from Yellow Fever, on her passage, and on arriving at Quarantine, one sailor convalescent from the fever was transferred from the vessel to the Marine Hospital.

The vessel was laden with sugar and woods, and was ordered to anchor in the lower bay, off Seguine's Point. June 20th, (or 21st,) a robust man, aged about 30, a seaman, who had just arrived directly from Bangor, Maine, was employed by the consignees to proceed to the vessel, and take charge of her, as master and shipkeeper, while her cargo was being discharged on lighters. He remained constantly on board, and on the morning after the 7th or 8th night, viz., June 29th, he was seized with the premonitory symptoms of Yellow Fever, which disease soon became unequivocally marked, and he was sent up to the Marine Hospital, where he died of black vomit on the 14th day of his fever.

Hæmorrhages and profuse evacuations of blood, imperfectly transformed into black vomit, occurred on Wednesday, the 10th day of his fever.

It is worthy of remark, that in this instance *there could have been no other source* for the origin of the fever in that man, *who had just*

arrived from Maine, than such infection as inhered in the cargo and cavities of the "Lucy Heywood."

It is an incontrovertible instance of the imported origin of Yellow Fever in the Port of New York.

Another case of a doubtful character was received from the same vessel, July 4th, the final history of which is unknown to me. I saw the cases first mentioned, and know them to have been Yellow Fever.

Respectfully yours,

E. HARRIS.

The members of the New Orleans Commission, in their able report, admit "the susceptibility of the importation of Yellow Fever with the atmosphere which generated it;" at the same time claiming for almost every visitation of the disease in New Orleans, a local origin; by such modes as "upturning of the soil in digging the Carondelet and other canals;" "by extensive exposures of fresh earth in street paving;" "large fillings up and enclosures of the batture," or "immense exposures of a swampy soil in digging the Bank canal," or "digging extensive trenches and canals in draining," or "the immense excavation of two acres of ground, and with the removal of upwards of 336,000 cubic feet of earth for the foundation of the new Custom House in the heart of the city," during which latter occurrence a severe epidemic of cholera destroyed 3,843 lives, and 769 were lost by Yellow Fever.

Extensive upturning of new earth, levelling streets, digging cellars, spreading acres of sawdust over the streets and low places filled with it; exposures of the river bank from large cavings; excavations for cisterns and wells; marshes and pools near the town, and a great variety of other circumstances of a similar character, are mentioned as furnishing one blade of the "Shears of Fate," for a considerable number of other instances of Yellow Fever in other places in Louisiana and the neighboring States.

Now, as before remarked, with respect to this part of the New Orleans theory, we have nothing to say as to its applicability to that city, or any other Southern port; any criticism upon it by us must be confined to its relations to this city and vicinity, and within that range we unhesitatingly declare the opinion, that it has no shadow of ground upon which to stand, since the year 1820, nor do we believe it can be maintained for any of the attacks which this city has experienced within the present century. For if the theory of its domestic origin in this city possessed any validity whatever, surely, since the year 1807, a period of 50 years, there have been more than three occasions for its spontaneous production. There are compara-

tively young men living, who can remember the vast alterations which the face of this island has undergone within that time; what hills have been levelled; what valleys filled; what miles of streets have been paved, repaved, and paved again; how many thousands of cellars dug, wells sunk, cisterns, cesspools, and privies excavated, filled and emptied by the hundred annually, and numberless nuisances of every description created, abolished, and re-created. Within a few years, 90 miles of railroad track have been laid within the city limits, and since the introduction of the Croton water, in 1842, trenches have been dug for 255 miles of pipe; and finally, 130 miles of sewers have been put down, which receive, besides the ordinary overflow of the surface, the washings of nearly 40,000 water closets, and a vast amount of other refuse matter, all of which is discharged into the docks, and which, in turn, the "mud machine" is continually at work upon, raking it up from the bottom, and exposing to the air, regardless of winter's cold or summer's heat.

It is true that the soil of New Orleans is of a different character from that of New York; but we claim the palm for filthy streets, and for density of population, with all their concomitant evils.

We turn now to the consideration of that part of the theory which relates to the atmospheric influences which affect the development and extension of yellow fever, and we have to perform the more agreeable duty of giving an assent to that part of the doctrine of the New Orleans Commission, as far as our observation of the circumstances of last year's epidemic enables us to express an opinion.

It is claimed by Dr. Barton, (to whom, we believe, must be awarded the credit of the discovery,) that without a high general temperature, combined with a high point of evaporation, yellow fever cannot spread, cannot become epidemic. It was a matter of great interest to us, as well as to its distinguished discoverer, to ascertain whether this idea was in any degree verified last year in the precincts of the Quarantine and the opposite shore. In company with that gentleman, the Chairman of the Section visited some parts of the "infected district," particularly the region about Fort Hamilton, in the month of November last, with the double purpose of inspecting the locality, and ascertaining the condition of the atmosphere at the time of the fever visitation. The meteorological register kept at the Fort was opened before us, and on inspecting its columns, we found indubitable confirmation of these views.

In order to render this matter more fully understood, it must be remembered, that the meteorological observations referring to these

points are taken with a double thermometer, or rather two thermometers attached to one frame. One is a simple Fahrenheit, to ascertain the temperature; the other is a wet-bulb thermometer, to ascertain the temperature of evaporation. The bulb of the latter is covered with a layer of muslin, which is kept constantly moist by connection with a small reservoir of water, and the elevation of the mercury in the stem is influenced by the evaporation of the water on the bulb. If the water evaporates rapidly, the cooling thus induced causes the mercury to fall, and the number of degrees of difference between the two thermometers indicates the rapidity of evaporation. It is at once apparent, that if the atmosphere in which the instrument is placed is highly charged with moisture, the evaporating process must proceed slowly, and hence there will be little difference between the two thermometers; but if, on the other hand, the air contains but little moisture, its capacity for vapor being unsupplied, it will absorb the water more rapidly from the wet bulb, and the cooling thus induced depresses the mercury in the stem. The difference thus created between the two thermometers is the indication of the amount of moisture in the air, and is technically called "the degree of dryness" observed. In other words, the greater the difference, the drier the air.

Based upon these observations, calculations may be made of the number of grains of vapor contained in each cubic foot of air.

The atmosphere, like all other elastic fluids, has a capacity for vapor in proportion to its temperature; an amount that would saturate it at 50° would come far short of supplying it at 80° , and hence at low temperatures we find the mercury of the two thermometers in closer approximation; but in a heated atmosphere, the point of saturation being less easily attained, rapid evaporation is induced, and the two scales indicate a greater difference except under extraordinary circumstances. When, therefore, in hot weather we find the two columns of mercury approximating, or equalizing each other, we have an approach to, or the actual existence of, the point of saturation.

Let us now inspect the Meteorological Record of New Orleans during an epidemic of Yellow Fever. One of the severest attacks with which that city has been visited, occurred in 1853, when 7,849 died of that epidemic, besides 1,954 of various endemic disorders. On turning to the record we find

The average temperature of the air in July was 79.88°

" " of evaporation " 76.16°

Degree of dryness..... 3.72°

The average temperature of the air in Aug. was... 81.25°
 " " of evaporation " ... 76.13°

Degree of dryness..... 5.12°

The condition of the atmosphere thus expressed is regarded by the Sanitarrians of the "Commission" as an example of true Yellow Fever atmosphere; as presenting, in fact, in perfect unison, the elements of the upper blade of the "shears of fate."

Let us now inspect the records kept at Fort Hamilton during the epidemic of Yellow Fever at that place in 1856. We find the average

Temperature of the air in July was... 77.28° in Aug... 75.06°
 " of evaporation " ... 72.52° " ... 70.03°

Degree of dryness..... 4.76° 5.03°

Here, then, we find a very close correspondence in the condition of the atmosphere of the two localities, and so far as this instance goes, a verification of this part of the theory advanced in New Orleans.

But the question will probably occur to others that occurred to us on the discovery of these facts:

Why did this city, with its teeming populace, its unmeasured filth, and the actual introduction of at least fifty cases from without, and doubtless some fomites with them—why did this city escape a participation in the epidemic which trod so closely upon its southern border? Could there have existed a difference in the condition of the atmosphere of the two localities, sufficiently marked to account for our exemption, and if so, how shall it be ascertained? This exceedingly interesting inquiry, upon which, indeed, hung, in great measure, (at least in our opinion,) the fate of the theory which has been discussed, received upon investigation a solution as gratifying as it was unexpected.

For a long time, no reliable clue could be obtained to the secret. Upon reverting to our recollections of the season, it was well remembered that, to our personal feelings, the general temperature in both July and August, of last year, was unusually cool and comfortable for the season, and the air possessed a remarkable degree of balminess, and it was a matter of frequent remark, that the probabilities of a spread of the disease were, from these circumstances, very slight. But such evidence was too loose to base a conclusion upon, and it was not until some months afterwards that a record of the weather, kept on the eastern side of the city, fell under our observation, in which

we found indications of a decided difference in the atmosphere of the two localities. These records were made by Dr. J. P. Loines, of the Eastern Dispensary, and were furnished us by him.

We have obtained also, from the Report for 1856, of the Governors of the Almshouse, the Meteorological Record kept on Blackwell's Island, which so decidedly confirms the existence of a wide difference between the atmospheric conditions of the infected and the non-infected districts, that we think no apology is necessary for their full insertion in this place.

1856.	JUNE.				JULY.				AUGUST.				SEPTEMBER.		
	Mean Out-Door Temp. New York City.	Evaporation below.	Ditto at Blackwell's Island.	Ditto at Fort Hamilton.	Mean Out-Door Temp. New York City.	Evaporation below.	Ditto at Blackwell's Island.	Ditto at Fort Hamilton.	Mean Out-Door Temp. New York City.	Evaporation below.	Ditto at Blackwell's Island.	Ditto at Fort Hamilton.	Mean Out-Door Temp. New York City.	Evaporation below.	Ditto at Blackwell's Island.
1	...	...	...	...	72	8	10	1 $\frac{1}{2}$	75	9	5	3 $\frac{3}{4}$	65	6	6
2	...	...	...	...	71	6 $\frac{1}{2}$	8	5 $\frac{1}{3}$	77	7	5	2 $\frac{3}{4}$	66	10	9
3	...	...	...	...	72	4	5	3	76	5 $\frac{1}{2}$	3	1 $\frac{3}{4}$	69	8	6
4	...	...	...	...	72	3	3	3	75	4 $\frac{1}{2}$	3 $\frac{3}{4}$	2	71	8	8
5	...	...	...	...	72	8 $\frac{1}{2}$	6	5	68	2	1 $\frac{1}{2}$	1 $\frac{3}{4}$	71	9	7
6	...	...	...	...	75	7	6	4 $\frac{3}{4}$	70	7	7	3 $\frac{1}{4}$	70	6	5 $\frac{1}{2}$
7	...	...	...	...	75	5	4	2 $\frac{3}{4}$	76	10	7	5 $\frac{3}{4}$	71	7	6
8	...	...	...	...	69	4	4	2	75	7	5	2	70	2 $\frac{1}{2}$	3
9	...	...	...	...	67	4	2	1 $\frac{3}{4}$	74	8	7 $\frac{1}{2}$	3 $\frac{1}{4}$	73	8	8
10	...	...	...	...	70	6	4	3 $\frac{1}{2}$	72	8	8 $\frac{1}{2}$	3 $\frac{1}{4}$	73	8 $\frac{1}{2}$	8
11	...	...	...	...	75	5	3 $\frac{1}{2}$	2	74	8	8	6	80	8	7
12	...	...	...	...	75	5	3 $\frac{1}{2}$	3	72	9	8 $\frac{1}{2}$	2 $\frac{3}{4}$	72	9	8
13	...	...	...	...	76	5	4	2	71	8 $\frac{1}{2}$	7	2 $\frac{3}{4}$	73	10	7
14	...	...	...	...	84	6 $\frac{1}{2}$	4	2 $\frac{3}{4}$	71	7	7	1 $\frac{3}{4}$	69	7	7
15	68	8	5	4 $\frac{3}{4}$	83	8	7	4 $\frac{3}{4}$	73	10	4	5	69	7	5
16	67	8	4 $\frac{1}{2}$	2 $\frac{3}{4}$	85	10	9	5 $\frac{1}{3}$	72	9	8	3 $\frac{1}{4}$	...	...	...
17	67	6	4	4 $\frac{3}{4}$	84	9	9	5 $\frac{1}{3}$	71	10	7	5 $\frac{3}{4}$	...	...	...
18	64	1 $\frac{1}{2}$	3	1	84	9	10	9	71	9	10	3 $\frac{3}{4}$	...	...	...
19	70	5	3 $\frac{1}{2}$	2 $\frac{3}{4}$	75	10	9	3	67	3 $\frac{1}{2}$	3	1 $\frac{3}{4}$	...	...	...
20	74	9	9	5	74	10	3	7	70	5	5	1 $\frac{1}{4}$	...	...	...
21	83	8 $\frac{1}{2}$	9 $\frac{1}{2}$	6 $\frac{1}{4}$	71	9 $\frac{1}{2}$	9	7 $\frac{2}{3}$	67	8	6	3	...	...	...
22	84	9 $\frac{1}{2}$	8	3 $\frac{1}{4}$	77 $\frac{1}{2}$	11	7	5 $\frac{1}{3}$	69	10	10	4 $\frac{1}{4}$	...	...	...
23	72	5 $\frac{1}{2}$	5 $\frac{1}{2}$	2 $\frac{3}{4}$	80	12	8	6 $\frac{2}{3}$	73	10	8	3 $\frac{1}{4}$	...	...	...
24	66	4	5	8	82	11	11	9 $\frac{1}{3}$	73	10	8	4	...	...	...
25	69	4	4	3	77	13	10	8 $\frac{2}{3}$	66	9	8	3 $\frac{3}{4}$	...	...	...
26	73	5	3 $\frac{1}{2}$	2	80 $\frac{1}{2}$	13 $\frac{1}{2}$	10	4 $\frac{2}{3}$	61	10	8	3 $\frac{3}{4}$	...	...	...
27	76	7	9	3 $\frac{3}{4}$	85	14	12	7	65	11	8	2	...	...	...
28	76	8 $\frac{1}{2}$	8	2	87	14	12	7	68	7	6	2 $\frac{3}{4}$	...	...	...
29	84	8	6	6 $\frac{2}{3}$	78	9	7	3 $\frac{2}{3}$	69	6	5	1 $\frac{1}{4}$	...	...	...
30	81	9	7	8	82	10 $\frac{1}{2}$	7	3 $\frac{1}{2}$	68	9	7	3 $\frac{1}{4}$	...	...	...
31	...	...	...	...	76 $\frac{1}{2}$	9	8	2 $\frac{3}{4}$	68	8 $\frac{1}{2}$	7 $\frac{1}{2}$	3	...	...	...

Mean average of evaporation below temperature of three months : New York City, 8 $\frac{1}{2}$ °; Blackwell's Island, 7°; Fort Hamilton, 4 $\frac{1}{2}$ °.

We submit, then, that in these facts and figures we find a confirmation of that part of the rule laid down by the New Orleans Commission, that a concurrence of high heat and abundant moisture is a "*sine qua non*" to the development and spread of Yellow Fever miasma; and with the admission that the germ which is planted may have been *transplanted* from another soil, and is not necessarily or exclusively indigenous, the *whole* doctrine of our Southern friends stands justified in our own experience.

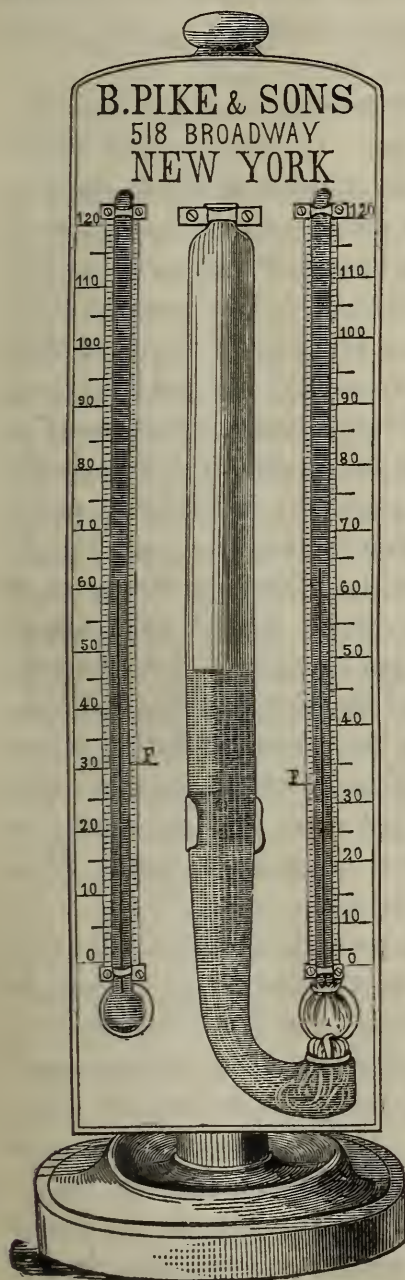


Figure of the Hygrometer referred to on page 112.

The next important inquiry is the practical one, how far this discovery may be applied to the prevention and extension of the disease in question, in this climate. Although this point has not been given to the Section to discuss, we may be indulged with a few suggestions on the subject. In the first place having demonstrated that Yellow Fever cannot be produced here from our own soil, we have only to be vigilant in preventing its importation, to avoid the approach of that blade of the "shears of fate," to escape it altogether. This is certainly not an impossibility, with stringent Quarantine laws, administered with integrity and intelligence. But should it again find a lodgment by accident or otherwise, should this blade of the "shears" be menacingly presented, then should all our energies be given to the application of every known means by which the second blade may be deprived of its temper; every means of drying and purifying the air should be resorted to.

The heat of the season, which is one of the necessary elements, we may not indeed be able to modify; but the moisture, at least of our

dwellings, and of the atmosphere immediately surrounding, we may in some measure control. Chemistry presents us with a variety of means for this purpose. Quick lime is a powerful absorbent of it; a low temperature will condense, a high temperature will dissipate, and a strong current will remove it. By these and other means of like character, we might, on certain occasions and circumstances, present a decided check to the progress of Yellow Fever, and probably had the public authorities possessed a knowledge of this law, the epidemic of 1822 might possibly have been somewhat controlled, both in extent and virulence.

But it is not alone in connection with the disease under discussion that this law assumes a great importance. It has long been known that dampness exerts a powerful influence over epidemic diseases. Cholera luxuriates in cellars, and other damp and noisome localities; dysentery becomes infectious in pent and humid atmospheres; and all other diseases, especially of the zymotic class, derive increased activity from dampness and confinement, and are greatly shorn of their virulence and fatality by the presence of sunlight, and ærial currents.

Every one is aware of the disagreeableness and oppressiveness of a dwelling teeming with moisture—so much so, indeed, that a newly finished house and other similar damp places are instinctively avoided, if possible. Its effects are perceptible to those in good health; how much more injurious, then, must be its influence in disease of almost every kind, but particularly those which depend upon atmospheric influences for their propagation and extension. Like the fungi of vegetable and the amphibix of animal life, they find their pabulum in the dampness and gloom of the forest and cavern; under the drying power of the breeze, and the warmth of unobstructed sunshine, they shrink and vanish. It is in these enlarged views that the science of Hygiene, the *preventive* branch of medical art, takes a higher rank, and fills a wider field of usefulness and power.

We see in these facts and inferences potential reasons for the prohibition of cellar residences in cities—for the requirement of sunlight in sleeping rooms, school rooms, work shops, and in fact everywhere; for ventilation, or the transmission of currents of air *through* apartments; for the rapid removal of the moisture and other matters which continually distil from our own bodies; for the thorough paving of our streets, that no water may stagnate upon them; and for the incessant practice of the virtue of cleanliness, not only in our public thoroughfares, but also in our private quarters. In a word, the *philosophy* of the precepts of Hygiene becomes more apparent than ever.

How far the presence of moisture affects the progress or treatment of other diseases than zymotics, is also a question of great interest. An observation of the hygrometric state of an apartment may be made in a few minutes—between the commencement and termination of an ordinary visit—and it is to be hoped that the facilities afforded by the neatness and portability of the instrument will be extensively embraced.

Occlusion of Os Uteri. Vaginal Hysterotomy. By B. FORDYCE BARKER, M.D., Prof. of Midwifery in the N. Y. Medical College, &c. Reported by J. R. Buist, M. D., House Physician to Bellevue Hospital.

Johanna Monahan, an unmarried domestic, æt. 26, and a native of Ireland, was admitted to Bellevue Hospital, as an obstetric patient, Sept. 21st, 1857. Is the subject of no hereditary cachexia, and with the exception of small pox, which she had when seven years of age, she has always been healthy. She has been subject to slight menstrual irregularity, and seven years ago she had a sudden suppression of this function, which only produced a temporary indisposition. She has never had any venereal disease, nor has she been troubled with leucorrhœal discharges. Says that she was seduced last autumn, and menstruated for the last time about Christmas, and thinks she must have become pregnant about that time. In April, being alarmed at the absence of the menses, she applied to a physician to bring them on. He made a digital examination per vagina, and told her that she was pregnant. His examination caused some pain, but he used no instruments, and gave no medicines. She positively denies that any attempt at abortion was made, but says that she tried to bring on her courses by foot baths, &c. She first perceived the motions of the child in July. For two weeks previous to admission she had a good deal of pain in the back and legs, frequent desire to void urine attended with pain. The bowels were costive. She entered the hospital supposing that she was in labor, but on examination there was no evidence of labor having commenced, and she was sent to the "*waiting wards*." The following Monday, Sept. 28th, she returned to the lying-in wards, stating that she had had pains part of Sunday, and all Sunday night. She was seen on the afternoon of the 28th. Her pains were quite strong, and recurred at intervals of 10 or 15 minutes. On examination the uterus was found rather high up, through the uterine walls the head could be felt presenting, but it had not en-

gaged in the superior strait. With a good deal of difficulty, what was supposed to be the os was found, feeling very much like the umbilical depression. The contractions of the uterus continued to grow more severe every hour until 6 P.M., when it was found that no progress was made in labor. The uterus was a little lower in the pelvic cavity, and what was supposed to be the anterior lip had become oedematous, and was about the size of a man's thumb. She was now put under the influence of chloroform, and a more thorough examination was made. The pelvis seemed normal, all the soft parts in a dilatable condition except the os, which was as above stated, and near the promontory of the sacrum. The warm douche was now employed, the woman being still under the influence of chloroform. This was only kept up about 15 minutes, when Dr. Barker arrived and made a careful examination. He considered it a case of imperforate os uteri, and determined to operate by incising the cervix. She was again brought under the influence of chloroform, and the operation was performed at 9.30 P.M. with a sharp-pointed bistoury and Simpson's uterotome. A puncture through the depression before described was first made by the bistoury of sufficient size to admit the closed uterotome. The liquor amnii now escaped most abundantly. Then with the uterotome lateral incisions were made, until the opening had a diameter of about two inches. The tissue was very much condensed, so that the incisions caused a creaking sound, audible to all the staff who were in the ward, resembling that produced by the cutting of sole leather. The uterine contractions continued to increase in frequency, the opening in the cervix gradually dilated, the vertex came down with the occiput to the left acetabulum, and she was delivered of a full-grown living female child at 6 A.M., Sept. 30. The placenta was expelled a few moments after, and the uterus contracted firmly. During the day a few doses of morphine were given, which gave her sleep. She was quite comfortable on the 1st of Oct., complaining only of a stitch in the left side. Oct. 2d, is doing well. Lochia natural, skin and pulse good. She only complains of some difficulty in voiding urine.

Oct. 23d. The patient has had a very favorable getting up, and was discharged to-day, quite well.

Remarks by Dr. Barker.

The propriety of incising the cervix in the rare cases of complete occlusion, and in some cases of extreme rigidity, is now no longer questioned by the best obstetrical authorities. The operation, if carefully

performed, is attended with very little risk, greater danger arising from delay in its performance than from the operation itself. This patient had been in labor more than 24 hours. The uterine contractions were very powerful, but nothing was effected by them except the exhaustion of the woman. The use of antimony and venesection have been proposed by some, even in those cases where the os is completely imperforate; but even if nauseants and the opening of a vein would contribute to make an opening into the cavity of the hermetically sealed womb, there is great danger that the opening might occur at the wrong place in the body, or at the fundus of the uterus, for example, and thus the fœtus escape into the cavity of the abdomen, instead of passing into and out of the pelvic cavity; and medical records furnish numerous proofs that the probabilities of such an accident are by no means hypothetical. So, also, in some cases of extreme rigidity of the cervix, where the os is not imperforate, the necessity for incision has been demonstrated by the highest obstetrical authorities, and is frequently verified by an enlarged clinical experience. In the *New York Journal of Medicine*, (New Series, vol. xiv., p. 231-252,) there is a very ingenious and interesting paper on this subject, by Dr. Willard, of Greene, now President of the New York State Medical Society. Our limits will not permit an extended examination of the pathological views of this article, or a *résumé* of the present state of science as regards this subject. But as truth in science and sound reasoning must ever be the basis of judicious practice, we may be pardoned for briefly calling attention to the results of modern researches, which have an important bearing on this subject.

1st. Within a comparatively recent date, it has been demonstrated that the neck and the body of the uterus are, both anatomically and physiologically, almost as distinct as two different organs. The circular muscular fibres of the neck are entirely distinct from those of the body. Indeed, there is no continuity of muscular tissue from the body to the neck, except that a few of the posterior longitudinal fibres of the body are prolonged to the neck, and constitute a portion of the middle posterior region of the neck. The neck possesses a greater amount of cellular tissue and a greater degree of vascularity. The mucous membrane of the neck also differs essentially in its arrangement, structure, and function, from that of the body. The mucus secreted in the cavity of the body is alkaline; that secreted by the cavity of the canal of the cervix is acid.

2d. These differences are still more striking during gestation. The physiological changes which take place are entirely distinct in their character. During gestation, the muscular fibres, the vascular appa-

ratus, and the mucous membrane of the body of the uterus are the seat of a wonderful development, totally different from the changes which take place in these structures in the neck. Its mucous membrane has nothing to do with the formation of the decidua, nor do its muscular fibres during any period of pregnancy form a part of the domicil of the fœtus, nor is there any considerable development of its vascular apparatus.

For ages the doctrine has been, and indeed most of the text-books now in use teach, that after the fifth month the cervix is drawn out and shortened by the expanding uterus; that at the sixth month it loses one-fourth of its length; at the seventh month it is only half its original length; at the eight it loses another quarter, and at the ninth the neck is obliterated. But no such changes take place in the cervix during gestation. It has its own peculiar physiological development. There is a softening of its tissue, commencing at the os tinæ, and after the fifth month this rapidly increases from below up to the os internum. The *cavity* of the neck dilates simultaneously with the softening of its walls, causing it to become spindle-shaped in the primiparæ, funnel shaped with the base downwards in those who have borne children. The os externum remains closed or very slightly open in the primiparæ up to the very end of pregnancy, while in the multiparæ it gradually opens from the os externum up to the os internum. During the last fortnight of gestation the os internum opens and the neck is lost.

3d. During parturition the physiological changes which take place in the neck are entirely distinct, both as to character, and when the process goes on normally, as to period of time, from those which take place in the body of the uterus. Those pertaining to the cervix constitute the first stage of labor, and those pertaining to the body the second. The phenomena attending these two periods of labor are entirely distinct in their character.

Now, as points of practical importance, it should be remembered, that it is absolutely essential, that the physiological changes of the first stage of labor should take place completely and efficiently, in order that those of the second stage may go on normally. The first stage may last many hours without seriously endangering life. But this is not the fact with regard to the second stage. It cannot be prolonged many hours with safety. It has been clearly demonstrated, by statistics founded on sufficiently numerous observations, that the danger to mother and child is in proportion to the length of the labor, that the mortality attendant upon parturition increases in a ratio progressive with

the increased duration of the second stage of labor. I think it will require no elaborate argument to prove that if the second stage of labor is prolonged to such an extent as to jeopardize life, from some pathological condition of the cervix uteri, which prevents the efficient completion of the first stage, it becomes the duty of the accoucheur to effect this by the resources of art, and in some rare cases incision is the only method compatible with safety.

Cancer of the Uterus, accompanied by Unusual Symptoms. By AUGUSTUS K. GARDNER, M.D., Fellow of the New York Academy of Medicine.

In September, 1855, I was called to take charge of Mrs. O., æt. 48. She had been ill for some year or two, under the care of a homœopathic pretender. Indeed, since the birth of her seventh and youngest child, now six years old, she had not been well, although formerly enjoying most robust health. The first symptom that seriously inconvenienced her, was a difficulty in defecation, and for many years previous to my seeing her, she never had a movement of the bowels without a protrusion, accompanied with a discharge of blood from the bowel. Coincident with this was a gradually increasing, intense pain in the back, both of which were considered to be piles, and treated as such, but with little if any beneficial result. With the increasing pain commenced a profuse discharge of blood from the vagina. This was frequently in small quantities, caused by the efforts of defecation, but considerable hæmorrhages occasionally (one very profuse, three years previous) occurred, of sufficient quantity to produce temporary fainting and great subsequent prostration, a general anæmic appearance, and a very great loss of flesh and strength.

These symptoms were considered to be those of a "change of life," and were ineffectually treated. No examination had been made by the attending physician, and the character of her disease was not even suspected until she consulted my esteemed friend, Dr. Sims, who at once recognized the presence of a corroding and far advanced cancer of the uterus. This examination, although carefully made by Dr. S., at his residence, was followed by profuse hæmorrhage. This, with the fatigue consequent upon the ride, the first time that she had gone out for some months, caused great prostration, and when I saw her on the subsequent day she was very feeble—scarcely able to rise.

Examination showed extensive cancerous degeneration, involving not

only the uterus, the os and cervix of which had already been destroyed, but the circumjacent parietes of the vagina were involved, thickened with the cancerous deposit, and the surface of a considerable portion was ulcerated, and from it a profuse discharge was secreted. The least contact with the uterine walls excited profuse hæmorrhage. The surface I cauterized freely with *nitras argenti*, with the effect of entirely arresting the flow of blood. The patient was put upon the *Tinct. Mur. Ferri*, both for its hæmostatic-effects, as well as its general tonic influence. A generous diet, with brandy, wine or porter, was ordered, and taken as freely as her depraved appetite would permit.

When the slough from the escharotic came off, bleeding again commenced, and it was repeated on the third day, and again once a week, for some half dozen or more times, when all hæmorrhage ceased from the vagina.

Some two or three weeks after this attendance, I examined the rectum for the cause of the hæmorrhage from the bowel, before alluded to, and which still continued, notwithstanding the uterine flow was diminished. This was found to proceed from a polypus, of the size of an English walnut, hanging from a pedicle inserted in the rectum, some two inches within the sphincter ani. This formed a valve, entirely closing the passage, and defecation was not possible, until by powerful efforts, accompanied by much pain and hæmorrhage, the polypus was forced externally, drawing down the gut with it. Drawing this polypus into view, I tied a silken ligature around it, which in the course of a few days effected a slough, and henceforth no difficulty in hæmorrhage or defecation was found to exist.

Some weeks after she had several severe and prostrating uterine hæmorrhages, which were checked by cold applications and Dr. Warren's hæmostatic, the recipe of which was published some time since in the *N. Y. Med. Times*, Feb. 1854, and which I found so useful, that I here recall it for the benefit of those who may be ignorant of it:

R.—Acid sulph. (by weight,) 3v.

Spts. terebinth,

Spts. Vin. rect. aa. 3jj. M.

Rub in mortar and cork tightly. Dose, gtts. xl. every hour in sugar water. The only objection to it is its tendency to nauseate.

After this period there was no further hæmorrhage, and little vaginal discharge. The principal complaint seemed to be dyspeptic, pain in the stomach, accompanied by eructations of wind. For this I prescribed bi-carb. sodæ and sub. nit. bismuthi, and with the effect of destroying a large number of lumbrici, which passed away to the number of

about two or three score, and with some relief of the unpleasant symptoms. (This effect of bismuth as a vermifuge is corroborated by an article in the *Gazette des Hopitaux*, March 12, 1857, there inserted from the *Boletin del Instituto-medico Valenciano*.)

Up to June, little change was perceptible. The patient gained strength and spirits, flattered by the hope of speedily getting well from what she supposed to be an "ulcer on the womb." The next phase was more disturbed rest at night, pain over the pubis, and this was suddenly followed by an entire cessation, accompanied by an involuntary discharge of urine, much terrifying her, but which was easily perceived to be from the ulceration having invaded the walls of the bladder. Except once for a few days, at a season supposed to be the monthly period, when it passed naturally through the proper channel, there was no cessation of this involuntary discharge.

Till this time she had taken three times a day the tinctura thuya occidentalis, as recommended by my friend, Dr. Leaving, as having a marked beneficial effect in cases of cancer. This was stopped, and various medicines were given partially for their effects upon the mind of the poor sufferer, and partially to soften the acidity of the urine, and thus to allay the pain from its scalding flow.

When the extreme mental disquiet at this new phase was somewhat alleviated, notwithstanding the great uneasiness at night, and consequent loss of rest, Mrs. O. gained in strength and spirits, so much so that on June 15th she was able (for the first time for months) to go down stairs on the occasion of her daughter's wedding.

This had short duration, for two days subsequently she was taken with chills, several occurring in the day, and repeated several times during the succeeding week, accompanied by intense fever with a burning skin, such as I have never before witnessed; a total loss of appetite, a lethargy approaching to stupor, and at times coma. This continued with little relief until on the evening of the 8th July, her spirit took its flight.

A post mortem examination was made by my friend, Dr. Conant, the day following, of which the following is the history as narrated at the next meeting of the N. Y. Pathological Society:

"The autopsy was made some fourteen hours after death. External appearances normal. Emaciation not great. Thickness of the abdominal parietes not far from one inch; muscles of good color, with some fat. The peritoneum was found completely covered by partially organized plasma. There was also about two quarts of fluid, of a purulent nature, in its cavity. The intestines were more or less bound to-

gether by bands of organized lymph. Internally, they presented no particular marks of disease. Liver normal, perhaps slightly fatty. Stomach, spleen, and pancreas all healthy. The left kidney was somewhat congested, while the right one contained a large abscess which occupied the entire lower half of the organ; the ureter upon this side was somewhat thickened, though the canal was free. The bladder, uterus, and rectum were removed in a mass, that they might the better exhibit their precise condition. The mucous membrane of the vagina was apparently studded with small calcarious deposits, so thick as to give it the appearance of coarse sandpaper. The entire posterior wall of the bladder was gone, as was also the corresponding portion of the vagina. There was no opening of a fistulous nature into the rectum. The womb was a mere shell, amounting to nothing more than the peritoneal lining, upon the whole of which were attached small bits of ragged uterine tissue, as though the whole organ had been eaten away by a corroding ulcerative process from below upwards. The same roughness continued upwards into this uterine shell, though not quite as well marked as in the vagina. There was no sign of an os uteri to be found. The thoracic organs were healthy, except some slight pleuritic adhesions, and very slight atheromatous deposit in the aorta."

Tincture of Benzoin as a Remedy for Epistaxis. By B. FORDYCE BARKER, M.D., Professor of Midwifery, &c., N. Y. Medical College.

I was called on the night of January 3d, to see Anna —, aged 12, on account of a severe hæmorrhage from the nose. While in the carriage on my way to visit my patient, her father informed me that she was a delicate child, with disease of the heart following rheumatism, and that she had had several severe attacks of epistaxis before. The posterior nares had been twice plugged, each time by a distinguished surgeon of this city who had been called in consultation. He represented the present attack as more severe than any she had before. It had resisted all the remedies which they could apply, and from past experience with such attacks, he seemed quite familiar with all the ordinary methods of controlling such hæmorrhages. He had blown alum up the nostril, applied ice to the nape of the neck, plugged the nostril with lint soaked in a strong solution of tannic acid, but still the hæmorrhage continued at the rate of 60 drops a minute. I found my little patient, a feeble delicate child, extremely nervous, and exhibiting the symptoms of extreme loss of blood to a fearful degree. Her lips were colorless, her respiration hurried and panting, her pulse small and wiry, her surface cold, with great impatience and nervous excitability. I at once began to prepare to plug the posterior nares by means of the

sound of Belloc. But my patient suspecting what I was about, immediately began to protest with violent screams that she would have nothing of the kind done, that she would rather die than be so hurt any more, that the surgeons had before almost killed her, &c. In short, no reasoning or expostulation was able to allay the violent frenzy which followed. I have not found the plugging of the posterior nares a particularly easy or agreeable operation even with the best subjects, and in the present case I plainly saw that it would be unusually difficult. For some time past I have been accustomed to arrest the severe hæmorrhage resulting from malignant ulceration of the cervix uteri, by painting over the diseased surface the tinct. Benzoin Co. It now occurred to me that this article might possibly prove equally serviceable in the present case. Having obtained some from the druggist, I injected about a drachm, by means of a small syringe, up the left nostril, the passage from which all the hæmorrhage came. For a moment or two she complained bitterly of a severe burning pain in the nose, extending back to the ear, but it very soon subsided and the hæmorrhage entirely ceased within five minutes after the injection was used. I remained with my patient about a half hour, and then directed a teaspoonful of elix. paregoric to be taken, and this to be repeated in an hour if she did not fall asleep. She has had no hæmorrhage since, and her general health has improved in the most remarkable manner, under the steady use of the syrup of the phosphate of iron.

As a further illustration of the hæmostatic powers of this agent, I may mention the case of a gentleman, a prominent "bear" in Wall Street, who had for several years been suffering from internal piles, which had greatly impaired his general health from frequent bleedings.

One very hot morning in June, 1856, I was called to see him on account of severe hæmorrhage. I learned, that for several days he had lost a good deal of blood after his morning dejection, but this morning it was so excessive as to induce complete syncope. When I saw him he was still very faint, and there was a constant oozing of blood from the rectum, which was so sensitive that I could arrive at no satisfactory result from a physical exploration. With a small syringe I injected into the rectum a half ounce of tinct. Benzoin Co. as soon as it could be obtained. Its effects were quite striking. He was at once aroused from his syncope condition, and began to dance about the room in a most lively manner, blaspheming fearfully. Since that time he has suffered neither from the hæmorrhage nor the piles, and his general health has become excellent. I have repeatedly heard of his urging other sufferers to call upon me, assuring them that, "although

they would get hell-fire thrown up their guts, they would certainly get cured of their piles." It will probably not seem very extraordinary that his advice has in a great measure been neutralized by the argument he has urged.

REVIEWS AND BIBLIOGRAPHY.

Influence of Recent Physiological and Chemical Discoveries on the Pathology and Therapeutics of the Digestive Organs. By X. DELORE and A. BERNE. Prize essay of the Société Impériale de Médecine de Lyon. Victor Masson, Paris, 1857. pp. 183.

The progress of discovery, in the various subjects to which Chemistry has been applying the torch of investigation, has been so rapid within the last 10 or 15 years, that he is a public benefactor who collects the facts connected with any particular subject, and so arranges them as to exhibit their practical utility to its cultivators. We greet every one who labors in this department with a hearty welcome, and think him a public benefactor, standing only next to the discoverer himself. One has drawn the fact out of obscurity, the other has made it *available* for the use of his fellow men. From the host of laborers in the department of original research, much material has been gained, but it must be subjected to classification by minds fitted for large generalization, and accustomed to judging of the practical value of an idea. The little brochure of MM. Delore and Berne is very apropos at the present time. What is the value of the discoveries, which Chemistry has been making, to the Pathology, and, still more, to the Therapeutics of the Digestive Organs? This question the authors consider in three chapters, entitled, the Hygiene of the Digestive Tube, Physiology and Pathology of the Digestive Apparatus, and Influences of Modern Discoveries on the Maladies of Nutrition, properly so called.

The first chapter is devoted to a consideration of food, both of vegetable and animal origin. There is nothing here which would especially interest our readers, as the facts and their full value have often been brought before them in the pages of this and other journals. The second is devoted to a subject of especial interest, and we shall endeavor to reproduce, in a connected form, what the authors have gathered from the wide expanse of scientific research.

Digestion has attracted attention since the days of Hippocrates, who

himself believed the process to be one of coction. Van Helmont taught the theory of *fermentation*, Glistonicus that of *putrefaction*, Pitcarn that of *trituration*, (valuing the mechanical force of the stomach at 12.951 pounds,) Albinus and Haller that of *maceration*, and Spallanzani that the saliva brought the food in intimate contact with oxygen, and afterwards the gastric juice, by its solvent power, thoroughly modified its nutritive molecules. Of all these theories, the nearest approximation to truth was the last, which claimed that the food was converted into chyme in the stomach, which, passing into the duodenum, gave up a liquid, known as chyle, to the chyloferous vessels, while the chyme remaining was acted on by the pancreatic liquid and the bile, which separated more chyle, to be absorbed in the jejunum and ileum. The intestinal secretions increased the quantity of the chyme, and frequently in the large intestines all the chyle being extracted, the chyme then became excrement.

Modern investigations have shown that the food first encounters the saliva, which inaugurates changes that must take place in the amylaceous material more fully when it enters the stomach. In the latter viscus the gastric juice dissolves protein bodies, and allows them to be absorbed as albuminose. In the smaller intestine the pancreatic juice makes an emulsion of the fatty matters, and accomplishes the final conversion into sugar of the amylaceous substances, and lastly the bile and intestinal liquids contribute their aid for the removal of all the nutritive material from the food.

The digestive process is not considered as confined to the stomach, since but a small portion of its complicated operations are effected there, nor even to the stomach and intestines, as after the various kinds of chyle (there are, in fact, three—saccharine, albuminous and fatty,) enter the blood, there still takes place what may be called digestion in the liver, lungs, kidneys, spleen, &c. As so many organs are actively engaged in fitting the blood for the uses of the system, it can be readily perceived that there are many modes by which digestion may be so deranged that it will be rendered insufficient to meet the demands of the system, and physiological considerations must be highly valuable in studying pathological indications.

In examining the details of the phenomena of digestion, the salivary glands must first be considered. The parotid glands are connected with mastication, and their volume is always proportionate to the exercise of this process. On this account they are largest in the mammalia, and absent in birds. Their secretion is large or small, dependent upon the movements of the lower maxilla, and the fluid secreted, containing

a considerable quantity of bi-carbonate of lime, which loses some carbonic acid on exposure, and is converted into carbonate of lime, becoming turbid. The secretion of the sub-maxillary gland is limpid as it flows from the duct of Wharton, but becomes filamentous on exposure. Its secretion has relation to the faculty of taste. Bernard has shown that acids are recognized through the lingual and bitter sensation through the glosso-pharyngeal nerve. These facts may be of practical avail in diagnosing the cause of certain nervous paralyses. The sublingual glands secrete a liquid which is associated with the act of deglutition. These three glands furnishing the material which is known as mixed saliva, initiate the changes which are afterwards completed by contact with the pancreatic and biliary liquid. Bernard had asserted that the gastric juice would arrest the catalytic action of salivary diastase. The experiments, however, of our authors show, that where vomiting had taken place after a meal *entirely* composed of rice, subsequent fermentation revealed a notable proportion of sugar.

The practical deductions from the properties of the saliva in certain cases of dyspepsia, are very important. Should the stools show that the amylaceous articles are not digested, which can be determined by the employment of iodine, it must be evident that some substance is required which will substitute the catalytic action of the saliva, or the pancreatic liquid. Germinating barley suggests itself as especially appropriate for this purpose. The profession should make careful experiments with it in all cases of dyspepsia of this character.

But there are various forms of dyspepsia, some arising from a fault of the stomach, others from the intestines, and others from the entire tube. It is well to study this affection under these heads:

1st. "Indigestion, or dyspepsia from a surfeit of food. There is a defect in the relation of the amount of food ingested and the secretion of the gastric juice." The indications here are "to quicken the normal secretions by excitants, such as coffee, aromatics, alcoholic stimulants, &c., and to promote them by warm frictions and all the methods which are in common use, but none the less physiological." When such efforts prove futile, then nature calls in to its relief the supplementary functions of vomiting.

2d. Acid dyspepsia, arising from vice of secretion. This form has been well studied by Joseph Franck. Those affected with it cannot take, without pain, "vinegar or acid wines; even milk sickens them and causes a sense of weight in the epigastrium; on the other hand, they are relieved by tainted meats, and cheese in which putrefaction has advanced; and alkalies or calcined magnesia seem especially suited

to them." Examination satisfies us that, instead of the normal gastric juice, we have a grayish mucus with uncertain reactionary properties, capable, however, of perfectly discoloring meats. The secretion is pathological. If food comes into the stomach under such circumstances, it does not find nature's solvent, but conditions suitable for the establishment of fermentation, viz., a temperature of 98° moisture, and a ferment arising from the albuminous material in the secretion. The liquid having slight acid properties, gives rise to an acid fermentation; "the alcohols are converted into acetic acid, amylaceous substances into lactic acid, fatty bodies, modified slightly by a reflux of the pancreatic juice, furnish butyric acid."

3d. Dyspepsia, from absence of secretion and gastric juice. The food will appear, in the stools, undigested. This state of affairs may be suspected when there is great fetor about the stools, disengagement of sulphydric acid gas, diarrhœa, &c., which show that the putrid fermentation has been established, and the preservative effects of the gastric juice are not active.

In the treatment of this form of dyspepsia, three methods have been proposed. *First*, the employment of excitants to the mucous coat of the stomach, such as sapid substances of agreeable taste, condiments, alcoholic liquors, bitters and aromatics, sometimes the prudent use of chicken broth, and of meat, which is the most natural excitant of the gastric juice. *Second*, rest to the diseased viscus. This is evidently diametrically opposed to the first method, yet it is probable that a judicious employment of both means is both prudent and beneficial.

Absolute repose cannot be obtained for the stomach, but we can obtain relative repose by the use of warm food, in small quantities, as much divided and uniform as possible, and the distension of the viscus will thus be avoided, while the thorough solution of the food will be facilitated.

The *third* method is that of M. Lucien Corvisart, and consists in the employment of an artificial gastric juice. Corvisart considers as an *aliment* "any crude substance *without* nutritive virtue," but which receives "a vital aptitude" in digestion, by virtue of which it becomes fitted for supporting life. A "*nutriment*" is an aliment that has acquired this vital aptitude, and can even nourish an animal that cannot digest. We have not space to discuss in detail the question of the employment of pepsine, or the preparation of the gastric juice known by that name, in this form of dyspepsia. Some success has followed its use, but this cannot do away with the necessity of re-establishing the secretion. To use the words of our authors, "the dyspeptic stomach is so bizarre

that it is quite possible that, mollified by doses of artificial gastric juice, it will begin to secrete normally; but to wish to annihilate the functions of this viscus, to wish to furnish it food ready prepared, this seems to us a singular pretension! Physiology and pathology have never given such instruction! It is the gastric juice of the individual himself which is indispensable to the accomplishment of good digestion, and if *its* secretion is exhausted or altered, we will give in vain food previously digested, or strange gastric juices!"

The wonderful researches of Bernard are set forth with much clearness, and due credit is given to the talent shown by Figuier in his memoirs on the subject of glucogenesis in the liver. The journals have been filled with abstracts of Bernard's discoveries, and every one is more or less acquainted with them. They have been fully sustained by Delore and Chauveau, in a memoir communicated (1856) to the Institute. Through these, we have learned that the liver has the power of transforming amylaceous material, which has been converted into sugar in the intestines and carried into it; of transforming this into fat, and of producing fibrine as the finale of the modifications of the albuminous principles of the vena portæ. Now, such operations cannot take place without the development of heat. The blood which leaves the liver is of a higher temperature than that which enters it, and is more elevated than the general temperature of the body. Here we have sources of animal heat altogether overlooked in the old theories of animal calorification. Bernard has further shown, that there must necessarily be present saccharine material to further the development of cellules in most of the tissues. *Where* the latter process is carried on most rapidly, *there* the quantity of sugar should be considerable, as for example at the departure of the blood from the liver, where the quantity of sugar is largest and the globules are most numerous.

If the functions of the liver are so numerous and important, we are now able to understand the wisdom of the Galenical doctrine, *Hepate vitiato, sanguificatio vitiatur*. Delore and Berne consider that the question as to the effect which is produced by the diminution or abolition of the glucogenic function, is yet sub-judice. Bernard had claimed a species of hyper-glucogenesis, on the part of the liver, as the cause of Diabetes, and Jangot thought the latter proceeded from abolition of the hepatic function which has formed into fat the saccharine material from the intestines.

Hæmorrhages are not infrequent in persons attacked with hepatic affections; may not these arise from the cessation of the transformation of the albuminose of the vena portæ into perfect fibrin?

Since all the food must pass through the liver, in order to make it suited for nutrition, it must be seen that no nutriment will be serviceable which does not pass through this barrier. "If some sugar is injected under the skin of an animal, the liquid will be absorbed, but it will not be modified or digested in the liver, and at the end of a few minutes analysis will detect it in the urine."

Another matter of practical importance is deducible from the late studies of Bernard; if the skin shows so clearly an action under bilious impregnation, in the form of pruritus hepaticus, may we not say there is also a pruritus cereбрalis? and in this way the sleeplessness and other symptoms associated with remittent febrile attacks may be explained.

Modern views on the physiology of the spleen and pancreas are very fairly exhibited with all the sprightliness and vivacity that Frenchmen show in their scientific papers. The physiology of the intestinal tube is very closely examined, and an accurate account given of the general nature of its excrements and intestinal gases. Some *novel* suggestions on the mode of analyzing these substances strike us as being decidedly *Gallican*. It is suggested, for the purpose of examining the experiments, that le malade irait à la selle dans un entonnoir placé sur une carafe remplir d'une assez grande quantité d'eau. The fecal matters thus received are shaken with the water, and after a little time they will be deposited in the order of their specific gravity, the undigested food at the bottom, and mucous material on the surface. By such an arrangement, the substances which are generally refractory to digestion, as well as those which are not digested owing to some peculiar cause in the case under investigation, can be readily perceived. "Among the first are found whole grains which have been protected by their epidermis; particles of animal tissue which resist digestive action, ligaments, tendons, &c.; fragments of bone, the coloring material of vegetables, (chlorophyl?) and fatty substances." In the case of imperfect digestion, fragments of beans and pieces of meat may be found undigested. "The fecal matters should be examined to see whether the patient is afflicted with biliary calculi; cholesterine in powder may be collected at the bottom of the carafe, and on decanting it should be preserved for analysis." With this mode of examination, many important hints may be obtained as to the nature of certain doubtful cases of sickness.

As for the analysis of the intestinal gases, we are not certain whether the authors are desirous of being funny or serious, when they propose as an excellent mode of determining the *nature* of these gases, that the patient should be *plunged in a bath*, where it could be an easy

matter to *collect* them and retain for after analysis. They quote one of Van Helmont's tests, which would be a pretty good method of determining between a combustible gas and one fatal to combustion. We give it as a specimen of ancient physiological chemistry.

"Ructus sive flatus originalis in stomacho, prout et flatus ilei extinguunt flammam candelæ; flatus autem stercoreus qui in ultimis formatur intestinis, atque per anum erumpit transmissus per flammam candelæ transvolando accenditur ac flammam diversis coloris, iridis instar exprimit."

The collection of intestinal gases for examination by the modern or Van Helmontian method would be a singular occupation for a physicist! But we forbear any further notice of these refinements of analysis!

It is only necessary to add in this portion of the subject, that we have been taught by chemistry the value of magnesia and carbon as absorbents in cases when carbonic acid is generated in quantities, and of sub-nitrate of bismuth where sulph-hydric gas is present.

The authors have condensed much information—the result of late investigations on the action of certain medicines, with a brief notice of which we shall close our article. Much is due to Mialhe, who, in 1848, directed attention to the important fact, that medicines do not act by virtue of the quantity injected, but of that which is dissolved. "Every insoluble body is inert." Thus charcoal can only be given with reference to its action in the stomach and intestines, as it cannot enter into the circulation. In general terms, a medicine insoluble in water will not dissolve in the organism, unless some of the fluids in consequence of their saline or acid constituents should act as solvents. If it does not find these conditions favorable to solution, it accumulates in the intestines, and after a certain accumulation the conditions may occur, and the solution be rapidly produced, when serious accidents would result. Thus, when oxide of antimony is employed, and accumulates in the system, if the patient should take tartaric acid, the result would be the formation of poisonous quantities of soluble tartrate. A similar result has to be guarded against in the use of iodine with calomel.

Mialhe suggests that the amount of chloride of sodium eaten by sailors in salt provisions, makes them peculiar sensitive to the mercurial action of calomel, in consequence of its conversion in large quantities into corrosive sublimate.

The advantages of modern discoveries with reference to the digestive organs, consist: First, in our knowing better the functions of different portions of the digestive apparatus, and hence being able to find the diseased portion. Thus, if meat is not digested, the stomach is at fault;

if fatty matters, then the *pancreas* must be suspected, &c. Secondly, the various forms of dyspepsia have been more scientifically classified. Thirdly, the constitution of the *fœces* being better understood, very important indications of the pathological condition may be gained from their examination.

L. H. S.

PROCEEDINGS OF SOCIETIES.

New York Academy of Medicine.

[At the regular meeting of the Academy, Dec. 2, the Discussion on Puerperal Fever was resumed. We are indebted to Dr. Stephen Smith for proofs of the remarks of Dr. C.]

DR. A. CLARK said: That as much time had elapsed since he was first honored with the attention of the Academy on this subject, he would take the liberty of recapitulating the positions he had taken in regard to the nature of puerperal fever. He had expressed his concurrence in the views of those who believe the disease to be contagious, and had spent a little time in considering the different doctrines relating to the means by which the contagion is conveyed from one person to another. He had stated that in his belief the disease is composed of two elements, a fever and an inflammation. In this respect, it resembles the epidemic dysentery, the epidemic erysipelas, or small pox. He had already stated that in the epidemic erysipelas which prevailed in New England, and in the western States, from seventeen to ten years ago, these two elements were as clearly distinct, in the time of their development, as they are in small pox. A febrile movement, lasting a variable time, attended by swelling of the tonsils, and of the superficial and deep-seated glands of the neck, preceded the grave inflammatory lesion; and when this latter made its appearance, one, two, or three days after the fever commenced, it was an erysipelas of the head and face, of the lower extremities, the body, side, or arm; or it was a pleurisy without any external inflammation, or a peritonitis, or, indeed, almost any internal inflammation. In lying-in women, and those in the puerperal state, it assumed the form of puerperal fever. In these various modes of development, it seemed as if the same poison was demonstrating its morbid power by lighting up a fever first, and kindling an inflammation afterwards, the double effect of one agent. He had expressed his belief that the fever of the puerperal disease was just as certainly followed by in-

flammation, as the fever of small pox is followed by an eruption, complete or incomplete; and as the fever of small pox never endangers life till the eruption, or some modification of it occurs, so he believed the puerperal disease is never fatal, but by the aid of its inflammatory element. These comparisons, however, illustrate nothing more than the compound nature of this fever; the succession in the two leading elements follows a very different law; for while small pox fever requires two days to reach its eruptive stage, and epidemic erysipelas one to three days to reach its inflammation, the puerperal fever, like epidemic dysentery, is followed promptly by its local lesion, commonly in a few hours, often in one. He believed in the communicable character of the disease, and this, independent of other reasons, would almost compel him to believe in its febrile nature. He believed in the inflammatory lesions, because their constancy is testified to by every accredited observer, except in a few rare instances.

These rare instances were the cases which, in the belief of Simpson, Gooch, and others, were without lesion of any kind—a simple fever, the poison of which overwhelmed the vital powers. It was his object, on a former occasion, to show that these cases were no exceptions to the general rule, but that they were really marked by inflammation, like the others; but that the inflammation was one that had escaped detection, that it was an endometritis, and that the inflammation affecting the inner surface of the uterus involved the open or valvular mouths of uterine veins, and might produce purulent contamination of the system while no pus was found in the veins themselves after death. The evidence of this was in the inflammatory exudation on the inside surface of the uterus; the redness of the uterine structure, penetrating a minute distance from within outward; the symptoms of pyæmia, and the discovery of pus in distant organs. To present this idea was the chief object of his former remarks; and to give it distinctness, he had referred to and recognized the then commonly described inflammatory lesions, viz., the peritonitis, the purulent phlebitis in the uterine sinuses, and the purulent inflammation of the uterine lymphatics. These, together with endometritis, he had stated were the primary *inflammatory* lesions, and that there were other organs subject to inflammations, in a subordinate and secondary degree.*

These were some of the views that he had presented at a former

* In making this classification of the inflammations, Dr. Clark did not mean to say that they were the earliest evidence of the morbid impression made upon the system; he meant to say simply, that among the inflammatory changes, those in the peritoneum and uterus were first in time and importance.

meeting, and he recapitulated them now to correct any erroneous impressions which might be formed from the condensed report of his remarks published in the medical Journals.

He could hardly open this subject for the further exposition of his views, without first noticing some of the statements made by Dr. Barker when the topic was last entertained by the Academy.

Dr. Barker urged that puerperal fever is a zymotic disease. So perhaps it may be, but Dr. Clark did not like the term, and was not in the habit of using it, because it is vague and of uncertain import. As commonly applied, it means, he said, all endemic, epidemic, and contagious diseases; and in this latitude of usage it had been made to embrace the most dissimilar affections. He had looked into the annual report of mortality in this city for the year 1842, prepared by our learned and industrious fellow-laborer, Dr. Griscom, much the best report that has ever issued from our City Inspector's office, and he finds there that the diseases usually called zymotic, are the miasmatic, typhus, and typhoid fevers; erysipelas, small pox, scarlet fever, and measles, thrush, cholera infantum, croup, dysentery, diarrhœa, hooping cough, influenza, and syphilis. He finds that our Boston friends, in preparing the valuable mortuary reports of Massachusetts, use the term, and spread it over precisely the same ground; while puerperal fever is carried far off into another section, and appears among the diseases of the organs of generation. This he discovers is the general usage of those who are attached to the word. By this very breadth of meaning, the term becomes vague and uncertain, and therefore objectionable. Should there be a disposition to use it in a stricter and narrower sense, as applicable to those diseases which reproduce the poison which causes them—in other words, strictly contagious diseases—in respect to the old idea that these diseases implied a fermentive process within the system, there would probably be less objection to the term, though even then it should be admitted into the medical language as a figure of speech, and in deference to the fathers. If the term as used by the gentleman means simply a contagious disease, Dr. Clark was ready to subscribe to his opinion, but for the sake of precision he was compelled to prefer the words *contagious* and *communicable*, to zymotic.

Dr. Barker had taken the occasion, he said, to speak somewhat disparagingly of the study of pathological anatomy, as if it limited our view of disease, and taught us to disregard its general history. To this Dr. Clark would reply, by pointing to what pathological anatomy had done, and the rank which pathological anatomists hold in our pro-

fession. Nobody could doubt that the immense improvements in medical diagnosis and practice, which distinguished the present century from all that had gone before it, the discovery of new diseases, and the advantageous changes in the treatment of affections long known, were to be set down to the account of this branch of study, more than to that of all others put together. New York physicians had gained the reputation of excelling their brethren in most other cities in the art of diagnosis. If they deserved this reputation, it could be attributed to nothing so much as to the general cultivation of pathological anatomy, and to the reflection which that study suggests. The Pathological Society, with its profusion of means, and by its calm deliberations, and its constant reasonings from morbid appearances in the dead to symptoms in the living, was a constantly recurring lesson to teach the profession not only what this study is worth, but to inform them what phenomena in life are not illustrated by the revelations of the scalpel, and also to keep alive a love for this pursuit by a demonstration of its advantages. In this respect it is far the most useful of our public societies, and who will venture to say that it has narrowed our view of diseased action, or turned us away from the proper consideration of the morbid agencies which work unseen, but fatally, leaving few intelligible footprints?

Morbid anatomy contemplates what it cannot demonstrate to the eye, no less than the obvious changes of structure.

If we look through the catalogue of distinguished names that grace our profession in the present age, we shall find that with scarcely a single exception they are the names of pathological anatomists, and that the foundation of their distinction is laid on this study. Brodie, and Velpeau, and Nelaton, Andral, Chomel, Louis and Trousseau, had been nothing if their intelligence and zeal had not induced them to follow their fatal cases to the dead-house; and certainly it will not be said that these men have contracted their perceptions, and have been led to disregard any recognizable morbid agency by these pursuits. On the contrary, any just study of men must compel us to the conclusion that the same zeal which urges to the laborious use of the scalpel, is the parent equally of that industry which gives the largest and widest views of disease in all its relations.

But we are told that an appeal to the *post mortem* appearances can hardly be allowed, because the observer is likely to come with his mind preoccupied with the idea that he must find some change of structure to show for every disease. This at least seems a fair construction of the objection taken, that "pathological anatomy has led to exclusive

solidism in medical doctrines." Is this really so? The present century illustrates the influence of pathological anatomy on professional opinions. Post mortem examinations were rarely obtained, or even asked for, till the time of the French revolution. Fifty years ago the doctrines of Cullen, or rather a solidism more exclusive than his, possessed the whole medical mind. Humoralism could hardly be said to have had an advocate. Even as late as 1830, Cullen reigned. In 1835 he (Dr. Clark) was born into the profession, a solidist. Almost all the senior and middle aged men, who now complimented him with their attention, were baptized into the same faith. And where are the exclusive solidists to-day? The very phrase is obsolete, or if not, is known only to mark a period in the history of medicine. Every man's opinion has undergone a change; and pathological anatomy has effected this change. Aided by chemistry and the microscope, it has shown us, both by its positive and its negative results, that there are diseased actions which leave no marks in the solids, or only such as are secondary and subordinate. When every physician, at all familiar with post mortem examinations, has found many of the solidist opinions in which he was educated gradually melting away; when such men as Carswell, Andral, and Cruveilhier* take the lead in investigations which show the blood to be the seat of the gravest changes, and, so far as we can see, primary changes, there is little ground for suspecting pathological anatomy of exclusive solidism.

But these are, after all, little more than side issues. The statement of gravest significance, and if it be supported, one which closes the argument on the real question at issue, is that the "lesions are often not sufficient to influence the progress of the disease, or to explain the cause of death." This statement, unsupported as it is by facts, is nothing more or less than begging the question. The opinion which follows in support of this assertion, that "the most malignant form of this disease, that which proves fatal in a few hours, offers the *fewest and least striking* structural lesions," may be true enough; for intense pyæmia requires little aid to destroy life, and certainly it is not the most striking among the manifestations of morbid anatomy. Two questions are suggested by these statements: 1st—What is really the shortest time in which the most malignant form of puerperal fever destroys life? and, 2d—Whether this shortest time is not long enough

* Cruveilhier, (*Anat. Path.* Liv. xi. p. 3,) discussing this very point, viz., how purulent contamination affects the system, says, "The solidism of the school of Pinel was mute before such facts;" and adds, that the "*sympathy*" of Bichat was "a metaphor, a felicitous word, which took the place of a fact."

for endometritis to produce fatal contamination of the blood? or, in other words, in what time can purulent infection overwhelm the vital forces?

Dr. Clark had not, as he said, made any extended research to ascertain the shortest duration of puerperal fever. He had only looked over his own cases, and those reported by the late Dr. Vaché. These latter are cases which occurred in Bellevue Hospital in 1840, when the form of the disease was the most malignant, and the fatality among those attacked greater, than in any other visitation of the fever, since the lying-in wards were opened. The shortest case of which he had any notes was fatal in 30 hours. The six shortest of Dr. Vaché's cases lived 33, 36, 42, 44, and 48 hours respectively, and the lesions noted in these several cases were as follows:

Case 5.—Duration, 33 hours. All the peritoneum injected, that of the small intestines highly so; mucous lining of the small intestines much softened and inflamed, a portion of that of the stomach inflamed; a pint of straw-colored serum in peritoneal cavity; interior of uterus appeared natural.

Case 8.—Duration, 36 hours. Peritoneum decidedly injected, containing a pint of dirty cream-colored puriform fluid, with shreds of lymph; mucous membrane of stomach and intestines considerably inflamed; *the inner surface of uterus covered with a shreddy secretion of the color of gangrenous tissue, and apparently saturated with pus.*

Case 19.—Duration, 42 hours. Peritoneum somewhat injected, containing a quantity of reddish brown fluid, but no lymph; half an ounce of pus between the uterus and bladder; uterus lined with a *dark chocolate-colored stringy secretion*, which being scraped off, left *the inner surface somewhat injected.*

Case 12.—Duration, 44 hours. Some lymph on the peritoneum, half a pint of brown serum containing lymph flocculi, in its cavity; inner surface of uterus covered by a *fatid stringy matter, intermingled here and there with a gray, ash-colored deposit.*

Case 1.—Duration, 44 hours. Peritoneum injected, a pint of sero-purulent fluid in its cavity, considerable lymph on its surface; inner surface of uterus covered by *light red secretion, with an occasional black patch.*

Case 13.—Duration, 48 hours. Lymph on several portions of the peritoneum; a little pure serum in its cavity; right ovary large and contained some small abscesses; inner surface of uterus lined with a *pink-colored matter* of the appearance of healthy lochial discharge;

broad ligaments of right side thickened and puffed out by deposition of lymph.

It is proper to state here that Dr. Clark saw all the cases reported by Dr. Vaché as they occurred after the 23d of February, up to the time the lying-in women were sent to the island; and at Dr. Vaché's request he took charge of such patients as were left in the infected wards, when new wards were opened. He also witnessed and recorded all the post-mortem examinations which were made at Bellevue after the above date. Case 4, and all from 6 to 18, he saw, and it was from his notes of the lesions that Dr. Vaché's reports were partly made up. When case 5 in the above list was examined, particular attention had not been paid to the inner surface of the uterus, and the report that this surface "appeared natural" cannot be taken as conclusive, especially since Dr. Vaché himself, as a rule, did not witness the dissection, for prudential reasons. It was case 8, in which the uterus presented an appearance altogether like that figured by Cruveilhier, Liv. iv. pl. vi. fig. 2, that drew attention strongly to this surface, and it was carefully studied in all the cases which occurred afterwards.

Dr. Clark holds that the "light-red secretion" of case 1, the "green shreddy gangrenous looking effusion" of case 8, the "fœtid stringy matter" of case 12, the "chocolate-colored stringy secretion" of case 19, and the "pink-colored matter" of case 13, all indicate a morbid state of the inner surface of the uterus, and that all these "matters" and "secretions" are the fibrinous or purulent products of inflammation, colored variously by the blood in the uterus. The natural appearance of this uterine surface for some days after delivery, is in his conviction that which is given it by adherent blood, coagulated in shreds or small masses, and by the watery secretion which is effused to wash away this blood; the prevailing color being that of dark, coagulated blood, for at least two or three days.* As to Dr. Vaché's

* M. Cruveilhier (*Anat. Path.* Liv. xiii, p. 2) expresses the opinion that purulent effusion is in general a part of the process by which the inner surface of the uterus becomes covered again with its lining membrane. He regards the lochia as a form of pus in most cases, and thinks that non-purulent lochia are the exception. He does not, however, regard the earlier lochia as having this character. It is possible that the analogy of a healing ulcer may have led him astray. With our improved means of determining this point, the lochia should be investigated anew. It has been stated in an earlier part of this discussion, that in the few cases examined of persons dying of puerperal convulsions, and other non-febrile accidents of labor, pus was not found in the uterus, and that in a portion of the cases of actual endometritis the product of the inflammatory ac-

suggestion, that the "pink-colored matter," in case 13, was probably healthy lochial discharge, had he seen it himself he would hardly have entertained this idea. Dr. Clark's notes on this case are full, and having been made at the time of the autopsy he thinks they can be relied on. "The inner surface of the uterus was covered by a thin flocculent matter which could be easily removed. This appeared to be lymph colored by a little blood. There were a few shreds of lymph lying unattached in the neck. The odor was not very offensive." "Several vessels of the left ovary contained each, instead of blood, a drop of what appeared to be pus." Purulent contamination in this case, then, may have had a double origin. Dr. Clark adds to these, one

Case.—Duration, 30 hours. Peritoneum injected, most so over the uterus and intestines; about a pint of dirty orange-yellow, sero-purulent matter, containing a few flocculi of lymph in the cavity; inner surface of uterus covered by a dirty pink-colored and yellowish white exudation which appeared to be fibrine.

In all these *short* cases there was evidence of inflammatory lesion of the peritoneum; in all but one there was a morbid exudation on the inner surface of the uterus, and in this one Dr. Clark was informed by those who made the dissection that the inner surface of the organ was not particularly inspected.* There may be cases on record of tion on the free surface is not pus, but lymph. It is possible, then, to say the least, that this distinguished observer may have erred. But if a more careful investigation should confirm his views, it would only touch one of the supposed evidences of endometritis, and not the fact of its existence or its relations to the symptoms of puerperal fever. The reparative process, though pyogenic, has no analogies in its *constitutional effects* with the inflammatory; and it appears from Sedillot's experiments that a certain moderate quantity of well-conditioned pus may really enter the circulation, and yet produce no sensible effects.

* Cruveilhier (*Anat. Path.*, Liv. viii., pl. i. ii. iii., p. 11,) reports a case of puerperal fever (typhus puerperal) which was fatal in fifteen hours after delivery. The peritoneum contained a large quantity of white pus, such as is discharged from a phegmonous abscess. The lymphatics of the uterus contained pus. There was a dark slate-colored softening of the left lung. In this case M. Cruveilhier thinks the peritonitis preceded the delivery, as the woman had had abdominal pains and fever for five days.

On p. 10 he records a case fatal in *twenty-four hours*, the time of the attack being well marked and after delivery. The peritoncal cavity contained serum slightly bloody, and between the uterus and rectum pus. The sub-peritoneal cellular tissue was infiltrated with pus on the colon, along the right ovarian vein, in the broad ligaments (sero-purulent matter), on the neck of the uterus, and part of the bladder, etc. Uterine lymphatics full of pus; left ovary enlarged and softened.

shorter duration than these. But it is of little importance whether there are, or are not; for it was claimed, when these views were first presented, that this internal inflammation, except in the most striking cases, had been overlooked. The appeal to the past, then, cannot be admitted into the argument. Future observations, made in view of the appearances here described, must decide the question, whether there is or is not a puerperal fever without some inflammatory lesion, peritoneal, uterine, or intra-uterine.

Still it will not be a loss of time, perhaps, to inquire a little farther into the probable effects of pus, laudable and ill-conditioned, mingled with the circulating blood. Sedillot, in his valuable treatise on "Purulent Infection or Pyæmia," has fixed the period in which this contamination from ordinary causes will prove fatal, at four to eight days; admitting, at the same time, the *pyoëmiées foudroyantes*, in which a large quantity of pus penetrates the circulation rapidly, as from an abscess opening into vena cava or portal vein, in which death will be determined in a few hours (p. 482.) He recognizes, also, a grave condition, indeed incurable poisoning, when pus is mingled with the blood, though the quantity be less considerable, by continual additions (p. 483); and he expressly denies that in the rapidly fatal cases there is any formation of metastatic abscesses. In nearly all the cases he reports of this accident in man, these abscesses were found after death; but when pus was injected into the veins of dogs, *if the quantity was large*, or if he injected the *serum of ill-conditioned* pus, death occurred without such productions. His experiments also show that in the dog, at least, moderate purulent infection may produce no disastrous effects; and that in larger quantity, pus in the circulation does not always produce fatal poisoning.

These experiments are sufficiently instructive, in their bearings on several aspects of this question, to authorize a particular reference to some of them. Thus, in

Expts. 1 and 2, M. Sedillot injected laudable pus, about 60 grains, the dogs weighing 14 and 16 lbs. troy, and it produced no sensible effect.

In another case (p. 10) the disease was fatal in *forty-eight hours*; there was flocculent serosity in the peritoneal cavity; pus was infiltrated into the sub-peritoneal cellular tissue of the left iliac fossa; along the left ovarian vein to the kidney; around the neck of the uterus; in the walls of the vagina; and filled the lymphatics of the sides of the uterus.

In this series of cases the shortest was fatal in 24 hours. Pus was found in the uterine lymphatics in all, and in all there was peritonitis. The inner surface of the uterus does not appear to have attracted attention.

Expts. 3 and 4.—The same quantity, the dogs of the same size—for a short time yawning; pendiculations, chills, refusal of food; and in one (a little of the pus being from a bubo) alvine evacuations; but in both prompt recovery.

Expts. 5 and 6.—Dog weighing 15 lbs., 225 grains of laudable pus; dog 22 lbs., 320 grains. Hurried respiration, thirst, refusal of food, disposed to be alone, lying down and unwilling or unable to rise, after some days extreme emaciation: recovery.

Expt. 7.—Dog 17 lbs., 120 grains of foetid pus. Animal gravely ill; very feeble; intense chills, panting and difficult respiration. After ten days began to recover.

Expt. 15.—10½ lbs., 120 grains of pus, greenish and foetid, from a phlegmon in the foot; in ten minutes animal supported himself against the wall, then sank down upon the earth, chills, hurried respiration; cries; *death in one hour.*

Expt. 16.—Dog 17 lbs., 60 grains of pus, from a venereal abscess of the scrotum; feebleness, difficult respiration, chills, horripulations, alvine evacuations, semi-paralysis of the posterior extremities; *death in one hour.*

Expt. 18.—Dog of medium size, 375 grains of well-conditioned pus; extremely feeble; stupid; when urged to walk, staggering, and falling frequently; frequent respiration; violent chills; alvine evacuations; tongue pendent; eye brilliant; later, respiration slow; then difficult, then raleuse; *death in four hours.*

Expt. 20.—Dog 27 lbs., 105 grains of pus from a gangrenous abscess in the muscles of the neck. Animal soon sunk to the ground; alvine evacuation; respiration accelerated, panting; attempts to vomit; neither ate or drank; *death in five hours.*

Expt. 21.—An Alsatian dog, 90 grains of the same pus; anhelation; diarrhœa; refusal to eat or drink; *death in eight hours.*

Expt. 27.—Dog 14 lbs., 60 grains of pus from an abscess in the thigh three weeks open; violent chill; feebleness of posterior extremities; refusal of food for eight days, and of water for four; escape from the house, choosing the very cold air outside; *death in eight days.* All the internal organs healthy, but a gangrenous abscess in the right thigh.

Expts. 28, 29, 30, 31, 32, 33.—Successive injections of pus; all fatal.

Expt. 34.—Injection of 75 grains of the serum of filtered pus, repeated four times. Death on the fifth day, with metastatic abscesses; animal in good health till nineteen hours before death.

Expt. 37.—Dog 23 lbs., 150 grains of filtered serum from the pus of a carious bone of the leg; second and third injection; great feebleness; death on the third day, without metastatic abscess.

Expt. 38.—Dog 40 lbs.; injection of serum of laudable pus 150 grains—no effect. The same serum on second day injected in the same quantity—no effect. Third day slightly fœtid, same quantity; animal feeble, raised himself with difficulty. Fourth day, two injections of 75 grains, now fœtid. Death eight hours after the last. No abscesses, but hard knots in the lungs.

Expt. 41.—Successive injections of the filtered serum of pus from empyema; suppurative phlebitis; metastatic abscesses; hæmathorax; death on the eighth day.

Expt.—Injection of 2500 grains of serum filtered pus, the pus of a lumbar abscess—no effect.

Expt. 44.—Dog 10 lbs. Injection of 45 grains of the globules of pus from an abscess in the arm, drawn the same day and kept at zero. Death on the third day—refusal of food; thirst; vomitings; feebleness; prolonged chills; tremblings; inflammation of the left eyelid, and of the cornea; ecchymotic spots in the lungs, but no abscesses.

The import of these experiments, and their relation to the disease we are considering, hardly require comment, especially when it is remembered that the uterine cavity is open to the ready access of air; that when inflammation has been recognized on its inner surface, it has often been of a character most likely to furnish a septic agent; and that the veins of the uterus are, after parturition, so arranged as to receive, either directly or secondarily, such septic agent, healthy or degenerated pus, in an augmenting and consequently accumulative stream.

Further on, Dr. Clark said, he might have occasion to remark on one or two of the other positions taken by Dr. Barker. It was sufficient for the present to say that the only question of importance on which they differed was—whatever might be the poisonous influence which produce the disease; foul air of an ill-ventilated or over-crowded apartment; the contagious principle given off by the sick person; the contamination of erysipelas; or, septic poison from a dead body, operating on the peculiar susceptibilities of the puerperal state;—whether puerperal fever, however produced, is really ever fatal before inflammation of some sort is developed, or without the concurrent agency of such inflammation. The argument of Dr. Barker had not convinced him that the ground he had taken at an early stage of this discussion was not defensible; and he again submitted to the Academy,

to be tested by their future, not by their past experience, whether the form of puerperal fever, heretofore regarded as fatal without demonstrable lesion, is not *the fever with endometritis*, and consequent pyæmia or septico-pyæmia.

In turning to the treatment of puerperal fever, Dr. Clark said, he was aware that he was expected to speak, not of the treatment in general, nor of the different modes of treatment adopted by physicians, but of the effects of opium. This would be the scope of his remarks, with only such additions as his observation had enabled him to make of the effects of veratrum viride and of one or two other agents. To show how his mind was led to rely on opium as a remedy in this disease, he would ask the indulgence of the Academy, while he recited the history of the exclusive opium treatment in simple and traumatic peritonitis.

The treatment of ordinary peritonitis, for which the graduates of the College of Physicians and Surgeons, and the pupils of the New York Hospital, have the sanction of those institutions, to as late a date as 1836, and probably till several years after that time, consists in bleeding, leeching, and the use of calomel and opium; the calomel, given with the view of affecting the system as promptly as possible, and the opium to retain the calomel, being given in grain and half grain doses. Indeed, these were the means relied on by nearly the whole profession. In 1841, however, visiting Woodstock, in Vermont, Dr. Clark met there Dr. B. R. Palmer and Dr. H. H. Childs, and he found that these gentlemen had become attached to Armstrong's method, as it is commonly called. He saw, with Dr. Palmer, patients treated in that way doing much better than on the more generally adopted plan. In the spring of 1841, '2 or '3, probably in one of the earlier years, talking of these cases, Dr. Clark suggested to Dr. Palmer that probably opium was the curative agent in peritonitis, and that the bleeding might be safely omitted, if the effects of the drug were steadily kept up. The next season, when they met, Dr. Clark was able to report an increased confidence in his suggestion, for he had tried opium alone, and had been successful. This statement he makes on the authority of Dr. Palmer, for in the lapse of years he had himself quite forgotten how the thought originated. From that time, neither he nor Dr. Palmer had bled a patient with this disease, and he remembers but one instance in his own practice in which leeches have been used; and Dr. Palmer is now in the habit of saying, that, with this treatment, peritonitis is no more formidable than a pneumonia. Up to 1850, Dr. Clark had treated eight cases success-

fully. In that year he saw his first unsuccessful case. The subject of the disease was a gentleman of some distinction, seen with Drs. Bulkley and J. M. Smith. In that case, however, it is proper to add, the disease probably gained much force, under the mask of a diarrhœa, before its true nature was recognized. Since that time he has lost but two in private practice—one in the practice of Dr. Gilman, and one in that of Dr. McNulty. In the first of these, there were some grounds for suspecting perforation, and in the second that accident was demonstrated after death. In the hospital there has, perhaps, been one death from the same cause in that period.

It was not till he had tried the opium in puerperal peritonitis that he became aware that his experience was but a confirmation of earlier observations ; but it soothes his vanity somewhat, that among the many physicians here and elsewhere who talked about and adopted the treatment, there were none who, at that time, could enlighten his ignorance. The report of what Drs. Graves and Stokes had done, in the fifth volume of the Dublin Hospital Reports, had either not been seen by New York physicians, or had attracted but little attention, and had been forgotten. It is certain that the suggestions of Drs. Graves and Stokes were not adopted by the profession here, and, so far as is known, had not influenced the opinions of any practitioner in the city. In Dr. Graves's "Clinical Lectures," by Neligan, (p. 244, vol. ii,) the following passage occurs : "The first case in which I used opium in peritonitis, occurred in 1822, in the old Meath Hospital. It was that of a woman in whom the inflammation set in after the operation of tapping for dropsy. The case seemed so hopeless, and the sufferings of the patient so intense, that I was induced to order opium for her in large doses. She also got wine. To my astonishment, she recovered. I afterwards published with Dr. Stokes our conjoined experience of the efficacy of this plan of treatment, in the fifth volume of the Dublin Hospital Reports." He adds, and the addition has a certain degree of significance: "The use of opium, in the form of peritonitis then described, is almost universally adopted," (that is, almost universally in Ireland.) Dr. Graves, then, did not propose opium as a remedy for *peritonitis*, but for peritonitis of a *particular form*.

The following extracts from Armstrong's Lectures will explain his plan of using opium : 1. "The first and main remedy is blood-letting, carried to approaching syncope." 2. "As long as the tongue continues moist, opium with blood-letting may be considered a sovereign remedy." "As soon as the patient recovers from the syncope,

give him, if an adult, three to five grains of opium." He goes on to say that, if in four hours the pain returns, the bleeding should be repeated, and the patient should take two grains of opium, *with calomel*; and if two hours later there is still pain, he directs still another bleeding, and one and a half or two grains of opium, *with calomel*. "The opium," he says, "tends to arrest the secretions of the liver, but when combined with calomel it has not that effect. Whenever, therefore, you repeat the opium, give calomel with it." The estimation in which Dr. Armstrong holds opium is emphatically announced in the following citation: "If I were subject, etc., and were only allowed to have opium or blood-letting, I would choose opium, though I would prefer both together."

Thus it appears that Graves proposed the use of opium for a particular form of peritonitis only, and Armstrong used it only as an auxiliary, though regarding it as rather the more benevolent agent among those he had chosen. It is not improper to add that the latter author startles our confidence a little, by a somewhat braggart air, and by figures that appear to us very large. He says: "I have treated nearly *three hundred* cases, with a success far greater than I have had from any other plan; and I could defy all the physicians of this country to show any more successful practice." Dr. Watson, in his Lectures, (Am. Ed., 1847, p. 737,) referring to the use of opium in peritonitis, says, that "A pamphlet was published some years ago, by Mr. Bates, of Sudbury, recording some striking cases of recovery from severe peritonitis, under large and frequent doses of opium, and a rigid adherence to the horizontal position." It is not stated whether bleeding was resorted to in those cases or not. But Dr. Watson is not convinced of the propriety of relying on opium, either by Mr. Bates's pamphlet, or by the cases of Drs. Graves and Stokes, which he reviews; for he says: "To sum up, then, *bleeding, and calomel, and opium* are to be resorted to for checking the inflammation." "The opium," he says, "allays pain, and perhaps relaxes spasm; *mercury tends to arrest the inflammatory action*." Dr. Clark presented the facts in this form, to secure for the opium treatment all the importance to which such independent and concurring observations should fairly entitle it.

But the history is not yet concluded, for, said Dr. Clark, if I may not claim for myself the priority of the discovery, by just so much as I esteem it useful, I am happy to be able still to claim it for my country. To you, sir, [addressing the president,] our acknowledgments are due for having preserved on record the fact that the late

Dr. Wright Post, of this city, used this *magnum donum Dei*, to combat inflammations, before either of the physicians whose authority is now so often quoted. Dr. Post, it seems, used opium in large doses "for its paralyzing influence over disease" of an inflammatory character, as early as 1804, and for enteritis in 1810, perhaps considerably earlier; for he seems to have been familiar with its use at that date. This pamphlet was published in 1829, before I was myself a student of medicine, and I became indebted to Dr. Van Buren, two or three years ago, for my first opportunity of perusing it. It is entitled a "Biographical Memoir of Wright Post, M.D., late Professor of Anatomy, etc., by Valentine Mott, M.D.," etc.; and contains a letter from Dr. F. G. King, addressed to the author, which details these facts. It is worthy of republication at this time, when the virtues of opium are undergoing renewed investigation.*

The details of this opium treatment of peritonitis are so nearly identical with those of the same treatment applied to puerperal fever, that the management of the two diseases can be most conveniently spoken of together; and the hour being far advanced, it is better that both be postponed till another occasion. It is, perhaps, proper to say in closing, and in anticipation of what is to be said hereafter, that my confidence in the opium treatment of puerperal fever, with peritoneal complication, is in no degree shaken by accumulating experience, but is rather increased; while its usefulness in that form of the disease which is attended by purulent infection, has not been demonstrated, at least, as an exclusive method.

NEW YORK, Feb. 5th, 1829.

MY DEAR SIR,

In reply to your inquiries as to the use of anodynes and opium by the late Dr. Post, I have to remark, that in conversation with him some two years past, relative to Dr. Armstrong's practice in inflammatory diseases, he told me that the use of opium, as recommended by that gentleman, (except in *larger doses*,) was corroborated by his own experience for a long series of years, and that to him it was by no means a novelty; for that, in 1804, he was called to a child about three years of age, suffering under a violent pneumonic attack, accompanied by pain, cough, and febrile excitement. That he accordingly bled, blistered and evacuated the patient, afterwards placing him under the use of antimonials, but all without benefit. Matters proceeded from bad to worse, until the child, exhausted by constant cough and excessive restlessness, seemed nearly at the point of death. Un-

* See Dr. King's Letter to Dr. Mott.

der these circumstances, he determined to quiet all these irritating symptoms by a powerful anodyne, and accordingly exhibited 60 drops of laudanum. Two hours after, he was called to the child, then supposed by its parents to be dying. He found the features sunken, the surface covered with a cold clammy sweat, and secretions of an unpleasant appearance about the eyes and nostrils, but the pulse had diminished in frequency, and was more full; the respiration was slower, and everything indicated the full and desired action of the anodyne. The parents were astonished to hear the physician say that the child would soon be better. The next morning all untoward symptoms had subsided, and the child became rapidly convalescent and recovered.

This was his first trial of anodynes in such affections; his *experiment*, if you please; but a few months afterwards, a similar case occurring, he immediately resorted to the anodyne; depletion and evacuants having been premised, and with similar success, since which period he has generally continued that mode of practice; latterly, however, substituting the Dover's powder in place of laudanum, in pneumonic attacks.

In 1810, he was called in consultation upon a gentleman in Jersey, suffering under enteritis. He found that he had been repeatedly bled, blistered and evacuated, but to no advantage; the pain still continued acute; the pulse was small, frequent and corded; the skin dry and hot. Under these circumstances he suggested the propriety of exhibiting a powerful anodyne, in order to quiet all irritation, and give nature an opportunity of recovering herself. After a little hesitation on the part of the attending physician, it was finally determined to adopt the course proposed, and 100 drops of laudanum were directed; an hour elapsed—no sensible effect having been produced, when the *dose was repeated*, and in half an hour the patient was under its full influence. He awoke the next day free from pain or tenderness, and so recovered. The same gentleman has been frequently attacked since with the same affection, and uniformly after being bled and evacuated, he has recourse to his anodyne, which rarely fails to quell the disease. But to be efficacious, the dose must be *heroic*, at least such was the opinion of Dr. Post, who often remarked that practitioners, especially in England and France, were not aware of the value of opium in inflammatory diseases, for even when employing it in such cases, their doses were too trivial to exert any marked influence over the malady. He himself always exhibited it under the opinion, that to obtain its soothing effect upon the system, and its *paralyzing* influence over the disease, it must be given in large doses. In diarrhœa and certain con-

ditions of dysentery, after having cleansed the passages, he employed laudanum or Dover's powder with the happiest effect; in fact, he rarely used much else than salts and Dover's power in diarrhoea, in adults. In his own case he was no less prodigal of anodynes than with his patients. Being, as you well know, for many years a constant prey to pleuritic affections, his treatment of himself was short and efficacious, viz., blisters and purgatives, followed by 80 or 100 drops of laudanum, which quieted his cough—allayed pain, and soon placed him in condition to resume his business.

In conclusion, permit me to state an occurrence which took place under my own eyes, two years previous to his death. He was then violently attacked with pleurisy, accompanied with much fever, for which he had been purged and blistered, and at the period in question was under the use of antimonials. At this time he directed me to give him 70 drops of laudanum. I remonstrated, directing his attention to the dryness of his skin, its increased heat, and the frequency and hardness of his pulse. His answer was, "Believe in my experience rather than in your theory; give me 70 or 80 drops of laudanum, and an hour will convince you of its propriety." It was given, and within the hour his pulse became calm, full and slow; his skin was covered with a gentle perspiration, and his condition strikingly improved. He left his bed the next day, and frequently since has he said to me, "I think I have given you a clinical lecture that you will remember."

Such, my dear sir, are the facts concerning which we some time since conversed, and if they can be of any service to you, employ them as you think proper.

Yours truly,

F. G. KING.

To V. Mott, M.D.

HOSPITAL REPORTS.

Bellevue Hospital.

The course of clinical instruction at this institution was continued during the months of December and January. In the Lying-in Department there were 40 births during the month of December, including a case of twins. There were four cases requiring the interference of art to accomplish the delivery. Of this number there were two cases of breech presentation, and one in which the face presented. About the middle of the month puerperal fever made its appearance, and notwithstanding the utmost vigilance and care on the part of the medi-

cal attendants to prevent its progress, by isolating the cases, many were attacked, and four mothers fell victims to this malady.

The general plan of treatment was the exhibition of the sulphate of morphia, and the tincture of veratrum viride, the former in doses of $\frac{1}{8}$ to $\frac{1}{4}$ of a gr., and of the latter 5 to 10 drops, every hour or two hours, according to the severity of the symptoms and the frequency of the pulse. Attention was given to the condition of the bowels, which were kept open by refrigerant and saline laxatives or by enemata.

The suppression of the lochia was treated by warm fomentations to the vulvæ, and the abdominal tenderness by turpentine stupes.

The preceding is an outline of the general management of the cases.

The results from this treatment were, in most of the cases, highly satisfactory.

Dr. Isaac E. Taylor was visiting physician for the month of December.

In January, up to the 21st, there were twenty-five births; one case of *triplets*; they were all male children, and born alive, though they were small and premature, and all died within a few days after birth.

There was one case of ruptured uterus, which terminated fatally thirty-six hours after delivery. This occurred in a primipara, aged 18 years, of small pelvis, the antero-posterior diameter of the superior strait being rather less than 3 inches.

It was necessary to apply the forceps to terminate the protracted and severe labor.

On post-mortem examination of the uterus, there was found an opening, as Dr. Elliot remarked, about the size of a waistcoat button-hole, on the posterior wall of the uterus. This opening was caused by the uterine contractions forcing the posterior wall before the head of the fœtus and against the (in this case, an unusually) sharp promontory of the sacrum. Consequently, this lesion, though having the same result, could not properly be called a rupture of the uterus, but an opening caused by the mechanical force dividing or destroying the tissue intervening between the head of the child and the prominence of the sacrum, in the same manner as vesico-vaginal fistulæ are caused by pressure against the pubis. Dr. Geo. T. Elliot was visiting physician for the month of January.

During the month of December there were two cases of traumatic tetanus, both of which terminated fatally.

The new operating amphitheatre was opened the 16th of last month. About 400 medical gentlemen and students were present. Dr. Jas.

R. Wood, previous to commencing the operations, gave a succinct and interesting account of the comparative condition of Bellevue Hospital at the present time, with what it was but a few years since.

From a dilapidated Almshouse, it has become one of the finest hospitals in the country; so that now it is truly an honor to be connected with it. The new Theatre seemed to give universal satisfaction. It is well lighted, and the operating table is in full view from every part of the room.

Dr. Wood tied the femoral artery for popliteal aneurism. The aneurism was of but six weeks' growth, and yet it had attained a large size, and had caused the patient intense pain for the week previous to the operation. No anæsthetic was given, and the artery was promptly exposed and ligatured.

Dr. W. also removed the sequestra from a diseased tibia, and an epithelial cancer from the chest of a man. On the 23rd ult., he operated on a necrosis of the os frontis, a fistula-in-ano, and a hydrocele.

A patient, (a lad 16 years old,) affected with Pott's disease, was also exhibited. He had been under treatment for some time, wearing Dr. H. G. Davis' apparatus, the effect of which was to render the spinal column capable of bearing the body erect, throwing the weight upon the oblique and transverse processes of the vertebræ, permitting free respiration and full movement of the chest. The result was evident in the good figure and improved general condition of the health, the patient having gained 20 pounds.

Clinical Records.

Report of Cases occurring in Bellevue Hospital under the care of Dr. James R. Wood, Visiting Surgeon, Dr. J. J. Campbell, House Surgeon. Reported by J. M. FARRINGTON, M.D., Assistant Surgeon.

1. *Fracture of Vertebra—Paraplegia—Death.* Sarah T., aged 30, of good constitution, was admitted in hospital October 13th, 1857.

One week previous to admission, while standing on a step-ladder some six feet from the ground, she slipped and fell, striking on her feet. She sank down, and from that moment there was entire paralysis of both motion and sensation in the lower extremities. The fæces passed involuntarily, and the catheter was used to relieve the bladder, although a small amount of urine was constantly passing involuntarily. During the last three days of her life there was but little urine secreted.

On inspection of the spinal column no marked displacement of the vertebræ could be detected. A small point of abrasion, about the size of a half dime, was noticed over the sacrum at the time of her admission; this gradually increased in size. She suffered very much, and continued to sink after admission. Nourishing diet, tonics, stimulants and anodynes were administered, but she grew more and more feeble, and died on the 28th.

Autopsy, 48 hours after death. Almost the whole of the posterior surface of the sacrum was exposed from the sloughing of the bed-sore above mentioned.

There was a comminuted fracture of the body and transverse fracture of the 9th dorsal vertebra, causing compression of the spinal cord.

2. *Injury of Spine—Paraplegia—Recovery.* Owen D., aged 47, of good constitution, was admitted into the hospital September 26th, 1857.

A few hours previous to admission he fell backwards down a hatchway on a canal boat, falling some ten feet and striking on his back. He was picked up in a state of insensibility, and remained unconscious for about 30 minutes. Paraplegia was perfect; there was no sensation nor power of motion in the lower extremities. He had control over the rectum, but not over the bladder. The bowels were sluggish, requiring a frequent use of laxatives. There was paralysis of the bladder, with retention of the urine, requiring a constant use of the catheter for 3 or 4 days, after which it became necessary to use it only occasionally when he permitted the bladder to become distended. He soon learned to be cautious and attend early and frequently to emptying this viscus.

His treatment at first was tonic for the general system and counter irritants over the lumbar region, the seat of the injury. Dry cupping and blisters were repeatedly employed, and afforded him marked relief from the pain. He suffered most from coldness of the lower extremities, and they were enveloped in blankets and gentle friction employed over them. About a month after admission he was put upon small doses of the extract of *nux vomica*. This was continued with marked benefit for two months. The galvanic battery was then employed to the limbs.

His improvement has been slow but constant, and he now (January, 1858,) is able to walk about the room, though his knees, he says, are still weak.

3. *Injury of the Spinal Cord—Complete Paralysis—Recovery.* William B., aged 25, of good constitution, was admitted in hospital November 28th, 1857.

On the night of the 30th of June, 1857, he was attacked in the street and stabbed in the neck by a dirk knife. He fell down in a state of insensibility, and lay bleeding for some time. When he awoke to consciousness a surgeon was dressing the wound, who said it was $5\frac{1}{2}$ inches in depth. The knife entered just behind the left ear, and penetrated the neck obliquely downward and backward towards the spine. The surgeon closed the external wound with a strap of adhesive plaster, and it healed in a few days.

There was at first complete paralysis of motion. He was not able to move either of his limbs. He, however, had control over the alvine excretions.

The character of the medicine administered he did not know, though at the expiration of three weeks after the injury, he noticed a gradual return of the power of motion on left side. The doctor said his right pupil was contracted, but his vision was perfect.

There was loss of sensation on the left side, but not on the right. It was not until August that he was able to go about. The galvanic battery was used to return motion to the right side.

Toward the latter part of July there was complete restoration of motion on the left side, but he never has had a full return of sensation to this side; "it has always been numb" since the injury.

He never had a perfect restoration of motion to the right side. He, however, was very much improved, and was getting along comfortably, when in October he "went to drinking" and became worse, and continued to grow worse until he entered the hospital.

He was quite crippled on admission. The partial paralysis of sensation on the left side, and of motion on the right, were well marked.

Counter irritants were applied to the nape of the neck, and the extract of *nux vomica* ordered in doses of one-third of a grain three times a day. He was directed to take a cold shower bath daily. The *nux vomica* has produced twitching of the left side, and now (January 20th, 1858,) it has begun to affect the right side also.

His improvement, though it has been slow, has been constant, and he is now in a very comfortable condition and able to attend to business.

4. *Injury of Spine—Complete Paralysis—Death.* Thomas C., aged 50, was admitted in hospital December 15th, 1857. On the evening of the 14th, while descending a flight of stairs, he slipped and fell down four steps, striking on his back.

He was not able to move after the fall, though he retained his consciousness. The paralysis was general and almost complete. He

could move his neck, though he had very little power of motion of the extremities. There was no loss of sensation.

He had but little control over the sphincters of the bladder and rectum, on admission, and a few days subsequently both the urine and fæces passed involuntarily. He was in a very feeble condition. Beef tea, milk punch, etc., were ordered. Dry cups were applied over the site of the injury, which was the cervical portion of the vertebral column, but all efforts for his relief proved unavailing; he gradually sank from exhaustion, bed-sores formed, and he died on the 9th of January.

A post-mortem examination of the body could not be obtained.

CORRESPONDENCE.

A Letter from DR. EVE to the Editors of the American Medical Monthly.

NASHVILLE, TENN., December 22, 1857.

To Drs. PARKER and DOUGLAS, Editors of *American Medical Monthly* of New York City.

GENTLEMEN:—In the December number of your journal, just received, you express regret for two things in the volume lately published for me by Messrs. Lippincott & Co., of Philadelphia. In regard to the first, my not confining my cases reported to Surgery, as editor, critic or friend, you have a perfect right to the opinion, and I make no complaint, for surely the flattering notices of the work by the medical press are quite satisfactory, and compensation enough for the twelve months' labor it cost in the compilation amidst my every-day business; but I am unwilling to submit to your decision about the manner in which you are pleased to state I have treated the question of priority among authors.

The first instance of the second cause of regret to which you refer, that of your colleague, Professor Carnochan's claim in removing the entire lower jaw. "The Collection of Remarkable Cases in Surgery" was issued in Philadelphia, under the supervision of Doctor, now Professor Gobrecht, of that city, who will testify to my mortification, when the proof-sheets reached Nashville, at the unpleasant error of giving credit to Dr. Carnochan, of New York, for Dr. Deaderick's case. Case III corrected, is the resection of part of the lower jaw, by Dr. Deaderick, of Athens, Tennessee, and not as published—amputation

of the entire lower jaw, by Professor Carnochan. The two short paragraphs following Case III, belong to Case IV, as its introduction. On page 143, 16 and 17 lines from its bottom, "The fullest and most satisfactory account of the complete disarticulation of both sides of the lower jaw," is credited in these words to Dr. Carnochan. May I not hope, with this explanation, that the friends of the Doctor will be satisfied I had no intention of doing him injustice?

You say "it would have been wise to be carefully distinct in such a matter," and I am charged with an attempt to injure your friend and colleague in New York City, by sustaining a Tennessean's claim to priority in operating upon the inferior maxillary bone, when the fact is, credit by error in my book was given to the former for work done by the latter. Would not the friends and heirs (for he has just died,) of Deaderick have had a greater reason to complain of me for the entire omission of his name in reporting his own case, and presenting that of another instead, as having performed the operation, than you could possibly have?—and yet they have done nothing of the kind. Thus, instead of attempting to deprive your friend of honor, he unintentionally has, by the printer, been made to receive the title of a case belonging to another, and this the first operation confessedly ever performed on the lower jaw, so far as a resection of this bone is concerned; and yet I am charged with annoying and doing injustice to Dr. Carnochan.

The other instance you point out and declare I claim for Dr. McCreary, of Kentucky, priority over Dr. Mott in removing the entire clavicle. I am charged by you with attempting to snatch laurels from the brow of one man and failing to place them upon the head of another. You say that I refer to a paper of Dr. Johnson, "and it would have been only *fair* to have reprinted it." Well, gentlemen, this is just what I have done, and nothing else. I have but *republished the case*, stated my authority for it, given full credit for it to the New Orleans Medical and Surgical Journal, and added not one word or made a single comment. Examine the book again—may be you have condemned too hastily.

Twenty years ago I expressed the opinion in the *Southern Medical and Surgical Journal*, published still at Augusta, Ga., that Dr. Valentine Mott was the greatest of living surgeons, and have had no cause or reason since to change it. As an operator, I doubt if ever he had an equal, and you will permit me to add, that from watching the progress of your colleague during the past ten years, I know no one so likely to become his successor as the present Professor of Surgery in the New York Medical College.

Born in the South, educated in the North, and now a resident of the West, I love too well my profession to knowingly do injustice to a professional brother, much less annoy one, and, as would be the case in the present instance, a warm personal friend. Admitting the error in the volume, which was beyond my power to prevent, I know I have attempted in it to be careful of the rights of others, but may not boast of being wise. Very respectfully, yours,

PAUL F. EVE.

NEW YORK, Jan. 23, 1857.

To Dr. PAUL F. EVE, *Prof. of Surgery in the University of Nashville.*

SIR—In reply to your letter to us concerning the notice of your "Collection of Remarkable Cases in Surgery," we beg leave to say, that as to the first part of the review, it expresses sufficiently our reviewer's opinion, and upon that point you and he must agree to differ. We are sure, however, that you would be the last man to desire any reviewer to refrain from expressing his opinion, simply because others, and perhaps a majority, differed from him.

In respect of the instances of questioned priority, your explanation must, of course, set you right, and we reprint it in the MONTHLY with a great deal of pleasure. But how was our reviewer to know that there was such an unusual misplacement and transposition of sentences as occur in the first case. In the book, it reads distinctly, on p. 142, "Case III. Amputation of the entire lower jaw. By J. M. Carnochan, M.D., &c.;" and the first three subsequent paragraphs are as follows:

For the first time, as was supposed, this formidable operation, excision of the entire inferior maxillary, with disarticulation of both condyles, was performed by Dr. Carnochan, Surgeon to the New York Emigrants' Hospital, in July, 1851.

This claim on the part of Dr. Carnochan has been denied him, particularly by Prof. Blackman, of Cincinnati, who, in the fourth edition of *Velpeau's Surgery*, by Mott and himself, asserts that McClellan, Stanley, Ganwesky, Heyfelder, Perry, Maisonneuve, Pitha, Cusack, Syme, Ackley, Signoroni, Walther, &c., have each done the same thing.

We regret to find that one so well versed in surgical literature as the author of this article is known to be, *ignores* the deeds of his own countryman, the backwoods Tennessean, Dr. Deaderick, of Athens, formerly of Rogersville, in this State, and gives the credit of the first methodical operation on the lower jaw to Dupuytren, of Paris. Dr. Mott, Mr. South, Dr. Blackman, Dr. Smith, successor to Dr. Gibson, each cheerfully concede priority of this operation to Dr. Deaderick. We are pleased to have it in our power to present a letter, never before published, respecting these claims, from the Doctor himself, and kindly furnished us by our friend, Dr. Avent, of Murfreesboro. The profession will now be able to decide the question: To whom does the honor belong of first operating upon the lower jaw?

Now, we respectfully submit, that it is impossible for any one reading the book, without the information contained in your letter, to come to any other conclusion than that of our reviewer, viz., that the "one so well versed in surgical literature" was Dr. Carnochan.

Since receiving your letter, we have looked carefully through the volume to find some correction of this mistake, supposing there would be one, since you noticed it in the *proof*-sheets. We confess we are disappointed in not finding one, but only an allusion in the preface to the comparative freedom of the volume from errors. Would it not have been wiser (excuse us if we use the word of the reviewer,) to have inserted so important a correction even in the preface?

On one point we beg leave to correct you. Neither of us is now a colleague of Prof. Carnochan, and friendship for him was not the reason of our reviewer's calling attention to this thing. Justice seemed to demand it, and Dr. C. was not even consulted in the matter.

With regard to the claim of Dr. McCreary, it is evident that the reviewer entirely misapprehended the statement. He and every one else to whom it was shown, among whom was Dr. Mott himself, understood all but the title to be your own words, and in that view of the case his expressions seemed moderate and proper. It is worth while to add, that at the request of Dr. Mott the notice of the book was withheld a month, that he might have time to communicate with you, and your reply to his letter did not suggest the idea that the view taken was erroneous.

It is true, no one could understand how you should thus speak of Dr. Mott, but the types seemed to make you. We do not see how such a mistake could be avoided by the reviewer; and on our part, every precaution was taken against it, even to submitting the proof to Dr. Mott.

We beg leave to subscribe ourselves, with great respect,

Your obedient servants,

EDWARD H. PARKER, M.D.,

J. H. DOUGLAS, M.D.,

Editors of the American Medical Monthly.

PARIS, January 12th, 1858.

To Drs. PARKER & DOUGLAS, *Editors American Medical Monthly, N. Y.*

In accordance with the resolution of the Society, I transmit to you the accompanying letter, requesting its insertion in your Journal.

I am, sirs, with great respect, yours truly,

BENJ'N LEE, *Cor. Sec'y.*

HALL OF THE AMERICAN MEDICAL SOCIETY, IN PARIS,
January 12th, 1858.

To the Editors of Medical Journals and Periodicals in the United States:

GENTLEMEN—It is now upwards of six years since a number of American physicians, in Paris, united to form an Association, under the title of the “ American Medical Society, in Paris.

Under Article II of the Constitution, which was then adopted, entitled “ of the objects,” the first and third clauses read as follows:

“ The objects of this Society shall be,

“ 1st. The formation of a Library, especially of American medical literature, which shall be freely open to the scientific men of every country.

“ 3d. The diffusion of American contributions to medical science.”

The Society was early impressed with the fact, which is apparent at the first glance, that the most important means for facilitating the accomplishment of these objects, the extreme utility of which cannot be doubted, was the regular reception by it of the Journals and Periodicals wherein the daily progress of medical science in the United States is chronicled.

Owing, however, to the peculiarly and necessarily variable character of its numbers and resources, its members felt unwilling to impose upon those who should follow them, and who might find the Society in a much less flourishing condition than it was, so heavy a responsibility as the subscription to even a small proportion of the scientific journals of the United States would entail. They therefore, through their Corresponding Secretary, made an appeal to the editors of such publications in America, to furnish to them, free of expense, the respective journals which they conduct.

This appeal, doubtless, in view of the national character of the undertaking, met with a prompt and generous response, and for a time the table of the Society was well supplied with American publications. These, however, have gradually been discontinued, until at present there are but two which are regularly received.

Being fully aware that this discontinuance of your favors is owing to the fact that the existence and importance of the Society have not been sufficiently kept before the eyes of the profession at home, and relying upon your already experienced generosity, as well as in view of the fact that valuable periodicals are now in successful operation which were not in existence at the time of this first appeal, the Society, at present, earnestly resolved to do all in its power to fulfil the designs of its founders, has instructed its Corresponding Secretary to

renew the request, and to forward it to five of the prominent Journals in the United States, requesting its insertion. Gentlemen wishing to accord this favor, will please to forward their Journals to Mr. Paul Bossange, 20 Beekman Street, New York, who has generously offered to transmit, free of expense, all books and papers intended for the Society.

BENJAMIN LEE, M.D., *Corresponding Secretary.*

EDITORIAL AND MISCELLANEOUS.

In France, people go to the Courts of Law as they do the Theatre, to witness the dramatic display. Here, the simple surroundings of our republican judges deprive the court of much of that scenic effect which lends such important aid in monarchical countries.

The cases, however, which are brought up for adjudication are none the less *célèbre* for the lack of this, but will rival those occurring in the courts of England and France, in their tragical character, the great talent and forensic ability enlisted, and in their sometimes farcical termination.

Insanity has always been a favorite plea for the defence in cases of desperation, and oftentimes with success. This will account for the frequency with which it has been brought forward by able advocates. Its signal failure, however, in some recent particular instances, has naturally turned the current of popular opinion against it, and for a few months past, instead of trying to prove everybody who had made themselves amenable to the laws of the State, insane, the courts have been busy in taking evidence to prove that many who are confined in Lunatic Asylums are wrongfully and illegally detained.

A recent case of this kind, that of Miss Wolfsohn, created for a while considerable excitement, but the incontestable evidences of insanity which she exhibited before the court non-plussed the matron of the Asylum, who had testified that she was not insane, and put a learned expert with his vast experience of 800 cases of insanity completely *hors de combat*. We can learn two things from this result: that there may be a motive, not always a philanthropic one, in such a proceeding, which never reaches the ear of the public; and that an experience of 800 cases does not alone constitute a man an expert.

— At the meeting of the *American Association for the Advancement of Science*, held in Montreal during the month of August, an invitation was accepted to meet in the City of Baltimore on the 28th of April. The Hall of the Maryland Institute will be used for the sessions of the Association. We understand the Local Committee, (Hon. Thomas

Swann, Mayor of the city, *Chairman*, and Prof. Lewis H. Steiner, M. D., *Local Secretary*,) have already initiated their plans for the accommodation and reception of the Association. As this meeting will be during the week previous to the meeting of the American Medical Association at Washington, D. C., it will be very convenient for medical men to attend both, and contribute thus to the annual fraternization of the members of these two great Associations.

Puffing One Hundred Years Ago. An amusing and instructive article, with the title "How they went by road and how they go by Rail," in the London *Athenæum* for October, contains an account of the annoyances which were invariable on visiting Bath. The visitors were met at the entrance to the city by a class of touters, who were representatives of the physicians resident in the place. Every visitor, by whatever vehicle he reached Bath, was supposed to be more or less in need of medical advice, and the physician or surgeon was ready to take possession of him, adopting the initiative too, in order to accomplish that for which he was prepared. Accordingly, travelers were beset by shabby-genteel men, with cards in their hands, each recommending his own master, extolling his skill, delicacy, and moderate charges, while he denounced his rivals as extortioners, dunces, and slayers of all kinds." This was the method adopted by quacks in 1757, before printing gave them the great advantages possessed now, of intruding upon a man's privacy and pushing their claims to attention there. The same spirit is seen, however, in the effect to denounce their rivals in 1757, as is manifest at the present time with this class; its members are always the same, whether as unlearned dunces, or faithless professors who have remained faithless *so long* as such a cause seemed to be one of profit and pecuniary reward.

—Syphilization, which is now a growing innovation, receives a support from India, as we learn from a letter from M. Guepin, of Nantes, to Dr. Caffé.

Syphilization is practised in certain parts of India upon a great scale, as a preventive as well as a curative means. The prostitutes of India often offer to syphilize our sailors, but these always refuse, unwilling to submit to any means not employed in Europe. The marine officer who gave me this information had the curiosity to see some of the women who offered to syphilize his sailors, and did not observe upon their bodies any disease of the skin, nor any cicatrix of a bubo. This fact is the more important, because he did not know that syphilization had been reinvented in France, practised with success in both Turin and Christiana, and also for the reason that syphilitic diseases contracted in India are excessively severe; those affected with it very often die, or are cured very slowly, after being subjected to the ablest, the most methodical and energetic treatment.

THE AMERICAN MEDICAL MONTHLY.

MARCH, 1858.

ESSAYS, MONOGRAPHS, AND CASES.

On the Development of the Thorax by Special Exercises, as a Prophylactic and Remedial Measure in Phthisis and other Chronic Affections of the Lungs. By HENRY G. DAVIS, M.D., New York, member of the Mass. Med. Society, &c.

In a series of papers upon "*Deformities and their Remedies*," published in the AMERICAN MEDICAL MONTHLY for March, May and June, 1856, I incidentally remarked upon the effect of *special* exercise in developing the thorax, and consequently the lungs, and the influence of this development upon the general health, especially in counteracting a tendency to phthisis.

Within a few months, Dr. Edw. Smith, Assistant Physician to the Brompton Hospital for Consumption, England, has published* his views upon the nature and treatment of phthisis, which accord so nearly with those I have for a long time entertained, that it is with peculiar pleasure I welcome his expression of an opinion corroborating my own views, sustained, as it is, by such extensive opportunities of observation and rigid investigation.

Believing, however, that I have attained one point in the treatment which seems to have been foreshadowed in Dr. Smith's mind, but which he has failed to develop; I shall attempt in this paper to ex-

* *Lancet*, Nov. 1, 1855; *British Med. Journal*, Jan. 10 and Feb. 7, 1857.

plain the particular means referred to, which are based upon the same philosophical deductions as are advanced by Dr. Smith. To do this, I premise, by stating, as briefly as possible, some of the main features in Dr. Smith's paper.

The nature of phthisis he believes to consist in a lessened inspiratory action of the air-cells of the lungs. That phthisis is incurred by a multitude of causes he admits, but yet affirms that they all have a tendency to exhaustion; and that though many, they have one common mode of action in inducing the disease.

The lessened action of the air-cells he proves from the lessened vital capacity, feeble respiratory power, and lessened mobility in the early stage of the disease, the consequently lessened vesicular murmur, increased harshness of respiration and flattening of the chest, with or without slight dullness, indicative of atrophy of the lungs. He also proves that these signs are found in those cases admitted to be prone to phthisis.

As my object in this paper is to show the effect of *special* exercise upon the chest, and through that upon the lungs, it will not be necessary to notice other points, which he so ably discusses, in reference to the disease.

Under the head of treatment, Dr. S. recommends "mechanical distention of the air-cells, to a degree beyond that which takes place perhaps in health, but certainly in the state of enfeebled respiration in which we find the patient."

He objects, somewhat, to bodily exertion, to attain this object, because it also increases the frequency of the pulse, which is already too fast for that healthy proportion between it and the respiration. He says, "the effect of much exercise in phthisis is, therefore, evil certainly, although at the same time it may be, but less certainly, good." "Now, is it possible to meet this difficulty, and to find a mode whereby the depth of the inspiratory act shall be increased, and yet the rapidity of the blood current not sensibly promoted?" Voluntary deep inspirations are suggested as a means, but are objected to for the reason that they cannot be continued, in consequence of the fatigue to the system. In speaking of deep inspirations as a remedial measure, he says, "I am not clear but that sometimes, and perhaps frequently, the effect now referred to lessens the frequency, and that without increasing the depth of inspiration; for *nothing is more common than for us to hold our breath* when making any unusual voluntary exertion." I have italicised the above, in order to draw attention to its import, as illustrating how near a mind may approach a principle, and yet leave

it undiscovered. For it is a fact, that in all uses of the arm, such as boxing, fencing, chopping, striking, swinging the dumb-bells, &c., (except when the arms are pendent,) indeed in all efforts that are violent, in which we make the body the point towards which the muscles attached to the humerus contract, we are obliged to fix the chest during their contraction. In lesser efforts this is in a measure avoided; but in all where anything like a vigorous exertion is made, in the manner referred to, the chest *must* be held while the muscles contract. This fixed state of the chest gives the end of the muscles an immovable point, *from which* they can act upon the parts *to which* the other ends are attached.

It should be remembered that most, if not all the muscles that are used in moving the arm, are muscles of respiration, and that they contract in the opposite direction when used for the latter purpose. In this act, (voluntary respiration,) as the object sought is to enlarge the cavity of the chest, all the muscles that would tend to prevent this enlargement will be relaxed, in conformity with that law of the system which requires one set of muscles to be at rest when their antagonists are in action. If this be correct, how can we enlarge the thorax by those exercises *in which* we are under the necessity, in a greater or less degree, of fixing the ribs and other parts concerned in the act of respiration? It is obvious, then, if we desire to enlarge the chest by voluntary exercise, we must adopt some mode in which the muscles will be called upon to contract in the same direction, as in the act of inflating the lungs by a voluntary effort; for, as I have before stated, in this mode of action all the parts of the chest, that move during respiration, are lax, so as in no way to interfere with its full expansion. In this is contained the principle so near being discovered by Dr. Smith. This principle lies at the foundation, and should be our guide in all exercises recommended for expanding the chest, and thereby dilating or developing the air-cells of the lungs.

Exercises *can* be prescribed for this purpose, that will not produce that sense of fatigue which Dr. Smith found to follow voluntary respiration; exercises that will not only accomplish the object at which *he* aims more effectually, but will at the same time invigorate other portions of the system; will tend to exhilarate and encourage, while the effect of voluntary deep inspirations is, I believe, to give rise to feelings of lassitude and discouragement, although they may be ultimately beneficial.

There are other objections to voluntary respirations mentioned, but I shall speak of but one other. "It is almost impossible," says Dr.

Smith, "to persuade phthisical patients to take an inspiration of the depth referred to."

Now, with the method of special exercises for the chest, which I would propose to be adopted in the treatment of phthisis, the indications demanded, by the showing of Dr. Smith, are met, and the objections raised against voluntary respirations are obviated. The principle I have already laid down; that they should imitate nature, should be brought about by developing the cavity of the thorax, through the action of the muscles, in the same direction as in voluntary respiration.

This may appear, when viewed cursorily, to be productive of the same amount of fatigue and lassitude as voluntary inspirations, yet the trial will convince any one that such is not the fact. The difference appears to be that, in voluntary inspirations, we combine with them the involuntary effort, and as each inspiration by the former process is continued much longer than when performed by the latter *exclusively*, it causes the same sense of fatigue that the same effort would if exerted to retain the breath. This, of course, is only intended to apply to a sense of muscular fatigue, and not to any effect that inspiration might have upon the circulation. This difference is illustrated in a person laboring with asthma; if he breathe by a voluntary effort, although compelled, as it were, against his will, by the necessity felt for increased respiration, he will feel fatigue in those muscles of voluntary respiration, and will experience much less relief than when he so places his arms as to allow his chest to hang pendent from his shoulders, the pectoral muscles sustaining in a great measure the thorax, the head reclining upon the hands or wrists. In this position he will breathe quite easily, and feel refreshed after sleeping; while in any other, although he might be able to sleep, he would feel the effect of imperfect respiration. This is not a relief to asthma, like that produced by medication; for, if he changes his position, the asthma remains the same. It is the expansion of the chest, to the extent effected, by the weight resting on or sustained by the pectoral muscles, that gives him relief, by its continual enlargement of the thoracic cavity.

It is upon this principle that I would enlarge the thorax, and thereby give the patient the benefit of full, deep inspirations, and cause him to repeat them for a much longer period than by a simple effort at deep voluntary inspirations. In the plan I propose, the pectoral muscles do not contract; they are drawn tense, which does not exhaust, like a contraction of them following volition. Another ad-

vantage of my method, and one that supersedes all others, is, that it accomplishes the object of effecting deep inspirations more perfectly than by voluntary effort or any other mode.

The entire weight of the body can be thrown upon the muscles connected with the scapula and the head of the humerus; and, if thought advisable, the patient can, even while in this position, make *voluntary* inspirations, thus combining the two.

In this way the chest can be expanded to its fullest capacity, producing a large vacuum, into which the air rushes under a pressure of fifteen pounds to the square inch. Besides the deep inspiration effected by this process, it is as beneficial to the system generally as any other exercise that has this for its exclusive object. From its producing a general glow over the whole system, it can be taken in a cold room or out of doors, the patient retiring to a comfortable temperature when he ceases to exercise. This mode, in addition to its other considerations, gives rise to a degree of exhilaration which "does good like a medicine," and encourages the patient to persevere. It also increases the appetite and the power of assimilation to a wonderful degree; some of its effects in this respect will be mentioned, in the accompanying report of cases treated upon this principle.

Dr. Smith expresses fears about adopting any exercise, on account of its increasing the current of the blood. The increased frequency of the pulse, in what he terms the pre-tubercular stage, appears to be owing to diminished capacity of the lungs, either functional or organic; and the system feeling the effect, in the want of a more perfect aëration of the blood, increases the frequency of the pulse, that the blood may be more rapidly sent to the lungs to be changed; for the same reason the respiration is more frequent than natural, although the proportions that obtain in health are somewhat changed in disease.

If this view is correct, and the effect of treatment would seem to confirm it, then any process by which the volume of the lungs is increased would diminish the frequency of the pulse; therefore there need be no fears on account of an increase of the blood current, by a *proper* system of exercise.

In all the exercises which I recommend for the purpose of developing the chest and increasing the volume of lung, I make the hands the fixed point, moving the body towards them, or suspending a part or the whole of its weight by them. In this way more or less of the weight of the body is thrown upon the pectoral muscles, and as they arise from the sternum and ribs they act upon them in the same direction that they do in voluntary inspirations, without the fatigue

that follows that effort. In this use of these muscles there is no necessity of fixing the parts from which they take their rise, as we do when we use them in direct action upon the arm; consequently the ribs and sternum are left free to be drawn by them, as illustrated by their use in asthma. Another consideration is, that involuntary respiration goes on without being disturbed, even should the patient suspend himself by the hands for fifteen or twenty minutes, and this too, it will be recollected, when the chest is expanded by so much of the weight as rests upon the pectoral muscles.

It is immaterial what this exercise is, provided the hands are made the fixed point. I have used a bar, confined to the ceiling at each end by ropes; from this bar the patient suspends himself by the hands, or, if sufficiently strong, he draws himself up until his chin reaches the bar, then bringing his arms into an extended position, he may repeat it as many times as his strength will permit; or he may throw his weight first upon one hand and then upon the other, alternately; but this requires much practice and muscular power. Another mode is to use ropes with knots every six or eight inches; these he uses to hold upon as he climbs up, or he may suspend his weight, holding by his hands, and swing back and forth; metallic rings may be substituted in the place of knots, answering the same purpose. If quite feeble, he can lean upon some object with his hands at arms-length, the object being of such a height that the body will be inclined at an angle of thirty-five or forty degrees; in this position the pectoral muscles will support a portion of the weight, and thus enlarge the chest. To secure the full advantage to be derived from this mode of exercise, it should be prosecuted faithfully. My advice has been, to repeat it every half hour, and continue it until a considerable degree of fatigue was produced.

In a paper referred to at the commencement of this article, the case of a young lady was given as illustrating the effect of this exercise; it was her case that first led me to observe the influence of increased respiration upon digestion and assimilation.

Eighteen years since, a physician having a sister-in-law in very feeble health, in consumption, as he supposed, while conversing with me about her difficulties, remarked, that she had a lateral curvature of the spine. I suggested that this might affect her lungs unfavorably, and advised her being put under treatment for it, to which he readily assented. She was directed a system of exercise, in which she held either by one or both hands; her exercises being selected for the purpose of remedying the curvature, were not always the best for devel-

oping the chest. At first she could support but a part of her weight; her muscular strength, however, rapidly increased, so that in a few days she could sustain her entire weight; her undivided time was devoted to the exercises; her appetite improved from the first day, until nothing eatable was refused because it did not please the palate. In fourteen days she had increased in weight ten pounds; in four months, twenty-eight pounds, when she dropped the treatment, having gradually diminished it after the first few weeks. Her chest, from her ad-measurements, was four inches larger in circumference than when she commenced treatment, and, to the practised eye, appeared abnormal; her face being small and her neck long, indicated a narrow chest naturally, yet the treatment had rendered it very broad.

With so great an increase of flesh and of the volume of lungs, it would have been an anomaly if the symptoms of disease had not left her. She is living at the present time, exhibiting the same large chest and healthy lungs.

In 1852, the parents of Miss S. consulted me in reference to the health of their daughter, remarking, "that she appeared to be going in the same way that her sisters did," they having died with consumption. Her age was 24, of brunette complexion, possessed of that mild, amiable disposition so often observed in females predisposed to phthisis. The mother said she had gradually lost flesh and strength for several months; at this time she was incapable of taking much exercise, being easily fatigued. Her countenance was rather pale, and expressive of lassitude; pulse more frequent than natural, and feeble; the inspirations light, and somewhat accelerated, attended with a disposition to cough.

Upon an examination of the chest, there was found dullness upon percussion in the clavicular region, but more particularly upon the right side, the vesicular murmur being less in the upper lobe of both lungs, but least in that of the right side. The amount of air respired was evidently much less than in health. As I have not the minutes of these cases by me, they are given from memory, yet they can be relied upon for their general features. That there was tubercular deposit, could not be affirmed with certainty, yet, from her constitutional tendencies, it would be fair to conclude there was. Her appetite was precarious; menstruation regular, yet somewhat scanty.

As the patient was to remain under my immediate supervision, I decided to put her upon a system of exercise, without any medication or change of diet, for the purpose of testing the effect of expanding the chest, upon the principles mentioned. The case was watched with

much interest, and it was not many days before a decided improvement could be perceived. In this case I directed a round bar, suspended at each end by ropes attached to the ceiling, the bar being placed as high as she could reach when standing upon her toes. At first, she could sustain only a small portion of her weight when holding by both hands; she rapidly gained muscular power in her arms and hands, so as to be able to swing to and fro. This exercise was taken in a room open to the external air, and at a temperature that would be uncomfortably cool for a person in health, unless actively employed. She was to repeat the exercise every half hour, and continue it until weariness was produced. At first, it occupied but a minute or two, but was gradually extended until it employed half the time. From the commencement of the treatment, she began to improve, and so continued without interruption until she was free from all symptoms of disease. The physical signs indicated a perfect restoration of the upper lobes of both lungs. The increase of flesh was nearly equal to that in the first-mentioned case. It will be recollected that the patient during this time had taken no medicine, had partaken of the ordinary diet of the family, and conformed to its regulations. As before stated, I was desirous of testing the effect of this treatment so far as it could be, by a single case. For this reason, and one other which I will mention, the only change directed was the exercise.

I was particular in giving direction to this effect, not only that I might fully test in her case the influence of the exercise, but that I might put as far as possible from her mind all idea of her being an invalid. This mental impression is deserving, in my estimation, vastly more consideration than is generally given it by the profession.

Aside from the other effects of mental depression, its influence is to diminish the frequency as well as the depth of the inspirations.

Sighing is the evidence of a prolonged interval between the inspirations; the necessity felt for breathing causes a deeper inspiration than natural; this deep inspiration is termed sighing.

It is for this reason, I apprehend, that grief and severe disappointment are frequently observed to result in phthisis, rather than in some other disease. It is this mechanical influence, (if I may be allowed the expression,) to which I would direct attention, as having been too much overlooked.

In 1853, the wife of G. H. R. requested me to visit her husband, who had hitherto refused to put himself under treatment, alleging as a reason that the other members of his family had not been benefited by medicine, but had failed rapidly under its use. He was the last

but one of a family of eight, the father and six of his children having died with phthisis in rapid succession. Mr. R. stated that he had been subject for several years to small hæmorrhages from his lungs, attended with more or less constant disposition to cough. He had not allowed these to interfere with his business, going out in all states of the weather, and practising showering with cold water every morning.

His flesh and strength had been gradually diminishing, but he had never been confined to the house until the Tuesday preceding my first visit. At this visit, I found him unable to sit up all day, being obliged to lie down after each paroxysm of coughing, they being attended with copious perspiration and prostration; hectic fever and night sweats occurred every day; his appetite had left him since his confinement to the house. His chest was very flat, head thrown forward, giving him the appearance of stooping, the respiration feeble and frequent, the pulse corresponded with the symptoms. He felt that the disease had now gained the ascendancy, and that he had but the last stages to pass through before following the other members of the family.

His appearance and antecedents were so discouraging that I omitted making a particular examination of his chest, fearing its influence upon his mind; but I gave him all the encouragement I could, by stating my confidence in special exercises for counteracting his disease.

In this case I directed medicines for the purpose of mitigating the cough, and checking the secretions of the lungs and the night sweats.

I prescribed Tr. Sang., Tr. Digitalis, Tr. Strychnos Nux Vom, and Morphine, combined, and directed that the whole surface of his body should be thoroughly rubbed, before retiring for the night, with dry flannel.

In a few days he was able to walk into a cold room and suspend a portion of his weight upon his arms, as in the last-mentioned case. Being a man of more than ordinary energy, and having withal the feeling that a man may drive off disease, he forced himself to the effort, and each day rewarded him by an increase of appetite and strength. The expectoration diminished, and with it, the cough. In three weeks he objected to taking any more medicine, as he felt so well, but continued the exercise faithfully, until he was able to be in his business the whole day, when he practised it as he happened to be at his house. Like most men, he could not be persuaded to neglect his business after feeling able to attend to it. He was not free from disease, and will, without doubt, die with phthisis; yet he has enjoy-

ed, up to the present time, very good health. Could he have been persuaded to follow the treatment for a month longer with the same faithfulness, the result would have been undoubtedly much more favorable. He remarked to me, after he was able to be out, that "my treatment would ruin a man—it would take all that he could earn to supply him with food." He could, at this time, take a full, deep inspiration, without any disposition to cough. His chest was evidently enlarged, as was manifest from the increased quantity of air he could inhale, as well as from the change in his figure to an upright position. His step was now elastic and quick, and his movements exhibited the energy of vigorous health.

I have given three cases illustrating the effect of exercise. The first might be termed the incipient or premonitory; the second, that of tubercular deposit; while in the last case, softening had taken place. It might be remarked, that when phthisis manifests its symptoms in a female at the age of 16 or 17, it is very likely to be rapid in its course, and to pass quickly into the softening stage. It is an admitted fact, I believe, that when it is developed at this time of life, it is more uncontrollable as well as more rapid, than at any other period.

It will be understood that the writer does not consider these cases as conclusive; he is fully aware that they are deficient in detail, yet they possess an interest as illustrating the effect of the special exercises, to which he would direct the attention of the profession. They exhibit the influence of such exercises upon the respiration and assimilation; they also indicate the permanency of these effects.

The first and second cases are, at the present time, free from disease of the lungs, and enjoying good health; the other, as has been stated, followed the treatment no farther than was necessary to enable him to attend to his business. When the disease is so far advanced as in his case, and at his age, the treatment should be continued for months; the thorax is much firmer, and the bony structure being fully developed, a permanent alteration can only be effected through the slow process of renewal that goes on after maturity.

The profession appear to be gradually approaching the conclusion, that the prophylactic treatment of phthisis must be sought elsewhere than among the drugs; that there is some defect in the system, either hereditary or acquired, that must be overcome in order to avoid a fatal result. I think it may also be said that the opinion is becoming general, that the cause is to be found in whatever interferes with that change which the lungs are designed to effect upon venous blood,

whether it be in the air respired, in the lungs themselves, or from their inability to fulfil their functions, in consequence of the restricted compartments in which they perform their labor.

Dr. McCormac, of Belfast, Ireland, in his work on consumption, says, "tuberculous scrofulous deposits, then, whether in the offspring of scrofulous, consumptive parents, or the offspring of persons free from scrofulous, tuberculous disease, are alike, and in every case, owing to the insufficient, imperfect performance of the respiratory function. The carbon is retained—in other words it is not discharged or sufficiently discharged from the blood in the lungs, and finding no adequate outlet by the liver, skin, or other possible emunctories, being neither burnt off in the lungs nor expended in the tissues, is deposited mainly as a hydro-carbon in the lungs and other organs, under the form of the bodies known by the designation of tubercles." He attributes this imperfect decarbonization of the blood to the impurity of the air we breathe in our places of business and pleasure, but more particularly in our ill-ventilated sleeping apartments.

That we breathe much impure air, is undoubtedly true, and the subject deserves all the consideration he has given it; yet I cannot think that all would escape phthisis, even should they never breathe impure air, upon the supposition that his views of the cause are correct. The habits and employments of a large proportion of the community are such, that they require but a small amount of air to supply the wants of the system; the student, the accountant, the female confined to her needle, or those over-taxed by idleness, require but a limited supply of air; their respiration is slight, the chest is seldom or never expanded to its full extent; it is kept day after day, and month after month in this state of semi-development, and the consequence is, that the chest follows that law of the animal economy which requires the partial or entire removal of a part when it remains habitually unemployed, or if the parts remain permanently changed in their relative position to each other, as in bones to which ligaments and muscles are attached; the ligaments and muscles become permanently shortened, conforming in the new deposit to the shortened distance between their attachments. The same law operates upon the thorax. If it is kept by a limited use at a diminished capacity, all the parts will, in a longer or shorter time, conform to this habit, and the lungs will correspond to the contracted state of the thorax, and the individual will now feel fatigue when making any increased exertion. When he has arrived at this state, one in which he has just sufficient volume of lungs to sustain life, while no demand is made

upon them beyond that requiring a feeble respiration, he may call himself well; but should he take cold, or any disease of the lungs arise, or should he be placed under unfavorable circumstances as to purity of air respired, (granting that he has heretofore breathed only pure air,) he would immediately suffer; the system would be below the point of sustaining itself, and must fail in proportion as the lungs failed to perform their function.

The full development of the chest, by the means I have proposed, provides against such contingencies. If the thorax is of that capacity that it may contain a volume of lungs sufficient to perform double the amount of service ordinarily required of them, then, when placed in an impure atmosphere, a quantity of air *can* be inhaled that will enable the lungs to fully discharge their duty; while in the other case, with a volume of lungs barely sufficient to meet the demands of the system, when supplied with a pure air, the system must necessarily yield to the deleterious influence of imperfectly aërated blood. Large lungs can be partially inflated, and thus perform a small amount of labor; but a contracted chest and limited lungs cannot supply the place of the former when called upon for increased service by the wants of the system. A large vessel can be used to convey a small quantity, but the reverse is not so practicable, unless by the frequency; this we see attempted by the lungs; as their capacity diminishes, the frequency of the respiration is increased.

The plan I have introduced for developing the thorax does not interfere with any medication that might be considered desirable, but is superadded to all the remedial measures hitherto recommended.

It may be objected by some, that this process is purely mechanical, and, therefore, beneath the consideration of the profession. It might be a sufficient response to this feeling, to say, that it cannot be beneath the dignity of man to investigate any process, however humble in our estimation, that the Creator in his wisdom has seen fit to institute. The entire process of introducing air into the lungs is mechanical, as much so as the production of a vacuum in the air pump, although the power operating in the former case exists in the machine itself.

In investigating this measure, the inquirer should first examine it as a mechanical operation. Let him consider the lungs and thorax as part of a machine for furnishing air to operate upon the blood, as he would investigate the capacity and power of any apparatus for furnishing air to a smelting furnace.

This view of respiration deserves a more careful study than it has

heretofore received from the profession. Without a large chest and a corresponding volume of lungs, all our medication in phthisis will be but palliative; but when we, by proper training, develop in our youth the full capacity of the respiratory apparatus, then medication (if called for) will be productive of the most happy results.

67 UNION PLACE.

Selections from Favorite Prescriptions of Living American Practitioners. By HORACE GREEN, M.D., &c.

(CONTINUED.)

Antispasmodics.

We define *antispasmodics* to be medicines which exert a direct control over spasmodic action; or those substances which counteract irregular or inordinate muscular action.

It is doubted by some therapeutists whether we possess any medicinal substances which do act directly on the muscular fibre. Those agents which are ordinarily arranged in the class antispasmodics are, by many, believed to act as indirect agents, relieving spasmodic action by revulsion, or through the influence which they exert upon other parts of the nervous system than those concerned in the muscular contraction. There is, however, a class of medicinal agents which exerts, unquestionably, a direct control over spasmodic muscular action. We have, therefore, both direct and indirect antispasmodics. As an efficacious remedy, in the treatment of hysterical affections, and in subduing great nervous irritation, we may administer the following antispasmodic:

R.—Assafœtidæ, ʒiss.
Morph. sulph. gr. v.
Saponis dur. ʒij.

Misce.—Fiat massa in pil. xl. divide, quarum capiat unam pro re nâta, vel binas, horâ somni.

Should a more stimulant antispasmodic be required, the following may be substituted:

R.—Assafœtidæ, ʒi.
Morph. sulph. gr. iij.
Camphori pulv. ʒij.

Misce.—Fiat massa et in pil. xxx. divided. Sumat unam ter quaterve in die.

Musk, when it can be obtained pure, is a powerful nervous stimulant. It is sometimes given in nervous and hysterical affections, in combination with other antispasmodics.

R.—Moschi, ʒi.
 Assafœtidæ, ʒiss.
 Camphori pulv. ʒss.
 Extracti Gentianæ, q. s. ut fiat pil. xxx. quarum

capiat unam ter in die.

The administration of musk has been much commended in hiccough, and in the subsultus of typhous and other low and malignant fevers.

R.—Moschi, ʒi.
 Æther sulph.
 Tinct. opii, aa. ʒiss.
 Aquæ cinnam. ʒiiss.
 Syrupi simp. ʒiss.

Misce.—Fiat mistura de quâ capiat cochl. j mag. ter in die.

By a combination of two or more of the antispasmodics, we obtain a more powerful effect in the treatment of hysterical and other nervous affections, than results, ordinarily, from the single administration of any one of these remedies.

R.—Tincturæ Castori,
 Tinct. Assafœtidæ, aa. ʒiss.
 Aquæ Camphoræ, ʒi.
 Spirit ammon. aromat. ʒss.
 Syrupi acaciæ, ʒiss.

Misce.—Fiat mistura, quarum capiat cochl. j. mag. pro re nâta.

The above mixture, given in doses of a table-spoonful every hour or two, has been recommended as a powerful antispasmodic in hysteria.

We have found the following mixture a very useful medicine in various nervous and spasmodic diseases:

R.—Tinct. Castori, ʒiss.
 Morph. sulph. gr. iv.
 Tinct. valerianæ, ʒiss.
 Syrupi acaciæ, ʒi.

Misce.—Fiat mistura; sumat. cochl. j. mod. secundâ quâque horâ.

In spasm of the stomach, arising from flatulence; and for relieving cardialgia, the subjoined mixture will be found very efficacious:

R.—Tinct. valerianæ, ʒi.
 Magnesiæ carb. ʒij.
 Tinct. opii, f. ʒi.
 Aquæ menth. pip. ʒiij.
 Olei anisi, m. xl.

Misce.—Fiat mistura, ejus capiat cochl. parv. omni horâ, vel sæpius.

Vel: R.—Tinct. lavendul. comp. ʒiss.
 Spirit carui, ʒij.
 Tinct. opii, f. ʒi.
 Æther sulph. ʒss.
 Aquæ font. ʒiv.

Misce.—Fiat mistura; capiat cochl. j. mag. pro re nâta.

The valerianate of zinc has been much employed by some practitioners, by whom it is recommended as a valuable tonic and antispasmodic, in the treatment of hysteria and other nervous affections.

R.—Zinci valerianatis, gr. xii.
Tincturæ valerianæ, ℥ss.
Aquæ cinnam. ℥ij.
Syrupi simp. ℥ss.
Aquæ font. ℥iij.

Misce.—Fiat mistura, cujus capiat semiunciam sextis horis.

As an antispasmodic in the treatment of chorea, the valerianate of zinc has been much commended by some experienced physicians. In combination with the subnitrate of bismuth, and the extract of hyoscyamus, we can recommend the valerianate of zinc as a most useful remedy not only in chorea, but in neuralgia and other nervous diseases.

R.—Extract. hyoscyami, ʒij.
Zinci valerianatis, ʒij.
Bismuth subnit. ʒi.

Misce.—Fiat massa, et in pil. xl. div., quarum capiat unam, ter quaterve in die.

The valerianate of ammonia has been recommended, recently, by practitioners, both at home and abroad, as an antispasmodic in hysteria, but more especially in the treatment of facial neuralgia. It has been employed by Dr. Declat, and some other foreign practitioners, with great success, in the treatment of nervous diseases.

Administered in doses of a teaspoonful, morning and evening, it has succeeded in controlling neuralgic pains after all the ordinary means have been tried, in succession, without avail. If pure, it should be administered in diminished doses from those recommended by Dr. Declat.

We have employed the following mixture in severe facial neuralgia:

R.—Ammon. valerianatis, f. ʒi.
Syrupi tolutan, ʒi.

Misce.—Sumat cochl. parv. quartis horis.

Anthelmintics.

That class of medicinal agents which possesses the property of destroying worms, or of expelling them from the intestinal canal, is called anthelmintics. The principle on which anthelmintics operate is not the same with all. Some by their disagreeable odor destroy or dislodge the worms; others by mechanical irritation; and others, again, by some unknown, specific operation.

In selecting these remedies, regard should be had to the character of the agent employed, and to the mode of application, with reference to the species of intestinal worms to be destroyed or removed. A great variety of animal parasites have been found, from time to time, in the human body.* Of those whose *habitat* is the alimentary canal, and for whose removal medicinal agents are frequently required, there are four species; the *tænia* or tape worm, the *trichuris* or *tricocephalus*, *ascaris vermicularis*, and *ascaris lumbricoides*.

The preparations of mercury have long been employed for expelling the lumbrici from the intestinal canal. Calomel, especially, administered in the ordinary purgative doses, has proved a most efficient anthelmintic for the removal of the round worm. In the United States, the *spigelia marilandica* is much employed, and is considered one of the most powerful and certain of the anthelmintics.

R.—*Spigeliæ mariland.* ʒss.
Aquæ ferventis, Oj.

Macera per horam, quarum sumat cochl. mag. tertiis vel quartis horis.

If a moderate dose of calomel be given in the evening, sufficient to produce a mild cathartic effect, and its operation followed the next day by the administration of the infusion of pinkroot, in doses of from half a fluid ounce to a fluid ounce, once in three or four hours, we have found this plan altogether more efficient than when the *spigelia* is given without the calomel. An active dose of castor oil should follow the last dose of pinkroot.

R.—*Spigeliæ pulv.* ʒiss.
Stanni pulv. ʒj.

M. *Syrupi simp.* q. s.

Fiat electuarium, cujus sumat. ʒi. omni mane noctique.

After the second or third day this medicine should be followed by a full dose of castor oil. The above combination of *spigelia* and tin is considered by some practitioners as being a very powerful and efficacious anthelmintic. Küchenmeister, however, protests against the administration of tin-filings, not only because of the uncertainty of the remedy, but because of the irritation of the intestinal membrane, excited by this agent.

It is advised by some practitioners to unite a purgative with the pinkroot.

* A very valuable work on the "Animal and Vegetable Parasites of the Human Body," by Dr. Frederick Küchenmeister, of Germany, has been, very recently, translated and published by the Sydenham Society. It contains much that is new and interesting on this subject, and adds to our knowledge of human parasites.

R.—*Spigeliæ mariland.* ℥ss.
Sennæ, 3iij.
Anisi, 3i.
Aquæ ferventis, Oj.

Macera per horam, sumat cochl. ij. ampla tertiis horis.

Dr. A. L. Cox, a distinguished, and, for many years, a successful practitioner in this city, was accustomed to employ the following anthelmintic:

R.—*Spigeliæ mariland.*
Sennæ, aa. ℥ss.
Potassæ bitart. 3i.
Jalapæ pulv. 3ss.
Sem. cardamon. 3ss.
Extract glycyrrh. 3ij.
Aquæ ferventis, Oss.

Macera per horam, sumat cochl. j. vel ij. ampla, pro re nata.

The *Filix mas*, or *Male fern*, although a foreign remedy, has been much employed in the United States as a vermifuge, particularly for the expulsion of the tape worm. It may be administered in the form of powder, or in decoction.

R.—*Filicis maris pulv.* 3i.
Syrupi simp. q. s.

M.—Fiat electuarium, cujus sumat 3i. vel 3ij. omni mane nocteque.

The remedy should be given on an empty stomach, and after being continued two or three days should be followed by an active cathartic.

R.—*Filicis maris,* 3i.
Aquæ ferventis, Oj.

Macera per horam, sumat cochl. ij. ampla, mane ac nocte.

To an adult, a wineglass full of the above decoction may be given, fasting, twice or thrice daily; and followed by a cathartic as above.

The *Kousso*, another foreign remedy, has also been employed by American practitioners with considerable success, for the treatment of the tape worm.

Kousso is the flowers of a plant, the *Brayera Anthelmintica*. It is ordinarily given in powder, and should be administered on an empty stomach.

It will prove more certainly efficacious if preceded by a cathartic.

R.—Flo. brayeræ anthelmint, ℥ss.
Aquæ tepidæ, Oss.

Misce.—Sumat 3ij. omni hora quadrante.

The infusion should be taken in divided doses as above, on an empty stomach. After a few hours, a full dose of castor oil, or some other brisk cathartic, should be administered.

Prof. Raimann, of Vienna, has been quite successful of late in the employment of kousso, exhibited after the following manner: An infuso-decoction is made by macerating 3vi. of kousso for twenty-four hours in cold water, and then boiled for half an hour. It is then taken whilst fasting, in two portions, without straining, and two hours afterwards from one to two ounces of castor oil. This remedy acts with great certainty.*

Many practitioners consider the oil of turpentine the best anthelmintic in tinea. Large doses are required for the treatment of the tape worm.

R.—Olei terebinth. ʒi.
Decoc. hordii. ʒij.

M.—Fiat haustus.

After repeating this dose for two or three mornings, if it does not purge, it should be followed by a dose of castor oil.

Küchenmeister likewise regards oil of turpentine one of the best and most energetic remedies for tape worms. He advises that this medicine be administered at bed time, and in a dose of one ounce triturated with the same amount of castor oil and honey, and the yolks of three eggs. It should be given in divided doses, and all in the course of an hour or an hour and a half.

Under the name of *semen contra*, the East has furnished to Europe a species of worm-seed, which has enjoyed a great reputation as an anthelmintic. It has seldom been used in this country. It contains two principles, which are equally efficacious, a volatile oil and *santonin*. This latter principle has recently been introduced into this country, and is especially recommended for the treatment of worms in children, on account of its want of taste. It is given in the dose of from a half a grain to three grains, twice a day. An agreeable form for children is the sugar-coated pills of Garnier, Lamoureux & Co., which contain each one-half of a grain, and invite the little patient by their appearance to take what otherwise he would struggle against. The dose should be repeated for several days. It seldom requires a cathartic, as it acts efficaciously as a cathartic in the larger doses.

The species of worm-seed better known to practitioners in this country is the *chenopodium anthelminticum*. It is reputed for its expulsive powers over the round worm. The oil is a favorite anthelmintic in some of the dispensaries of this city. In this form the chenopodium is used with much success by one of my friends, Physician to the Children's Department of the Demilt Dispensary.

* Küchenmeister, pp. 161-2.

R.—Ol. chenopodii, gtt. x.
Syr. Simp. ʒj.

M.—Cochl. parv. ter in die.

The dose should be continued for two or three days, and then followed up by a brisk cathartic.

To dislodge ascarides of the rectum, we have employed, successfully, an enema composed of *olive oil*. From four to six ounces of the oil should be administered to an adult, and retained as long as possible in the rectum. Young children, who often suffer greatly from the presence of ascarides in the rectum, are frequently promptly relieved by the employment of an enema composed of two ounces of olive oil.

In the treatment of this troublesome parasite, Trousseau and Pidoux have found injections of the biniodide and bi-chloride of mercury extremely effective. To an adult they administer, two or three days successively, an enema consisting of a quart of water in which five centigrammes (about three-fourths of a grain) of the biniodide are dissolved by means of one-tenth of iodide of potassium; or they employ the same quantity of corrosive sublimate without the iodide of potassium. Injections of the following strength may be used with safety:

R.—Hydrarg. biniodid. gr. i.
Potass iodid.. gr. ss.
Aquæ font. Oij.

M.—Pro enema.

When administered to children, from four to six ounces of this solution may be employed.

These authors say they have rarely failed of success in the employment of either of the above remedies.

They advise a repetition of the enemata in a fortnight afterwards, and again at the end of four or five weeks.*

Report on Fluid Extracts, read before the New York Academy of Medicine, December, 1857. By SAMUEL ROTTON, M.D.

The Academy of Medicine referred to their Section on *Materia Medica* a large number of Fluid Extracts, and the Section of *Materia Medica*, after discussing them at some length, referred them to me. As a Committee of that Section, I reported to them, but, for want of time, they could not give the matter that consideration that it seemed to require.

* *Traité de Thérapeutique.*

The Section have requested me to read the report before the Academy of Medicine at large, as merely the report of their Committee, as they consider the views herein presented too important to be hastily passed over by them.

There having been so many of these extracts referred to me, it has necessarily taken a long time to arrive at any report; and many of them have, in consequence, been left untried. I shall, therefore, only speak of those that have been tested either therapeutically or by analysis.

According to Professor Wood's definition, "Fluid Extracts (*Extracta Fluida*,) are highly concentrated solutions of the active constituents of medicines, or the active constituents themselves, extracted in the fluid state."

Of these extracts referred to me, the "Fluid Extract of *Veratrum Viride*" was first examined. I commenced by using 5 drops at a dose, at intervals of half an hour. This producing no effect, I increased the dose to 10 and to 20 at like intervals; and I also took 30 drops myself, without any effect. I then submitted it to analysis, and found a large amount of feculant and inert matter, with about 10 grains only of alkaloid, resinoid, and oleo-resin combined in $3\frac{1}{2}$ ounces.

Four ounces of "Fluid Extract of *Jalap*" were next submitted to analysis. The dose of this was said to be a teaspoonful, which should be equivalent to half a drachm of *Jalap* powder, or the 4 fluid ounces of the extract should represent 2 ounces of *Jalap* root, or 960 grains.

Mr. Blande obtained from *Jalap* 15 per cent. of resin, and the average yield is 10 per cent; this should yield, therefore, at 10 per cent. 96 grains; but the whole 4 fluid ounces of this extract did not yield a single grain of *Jalapin*. In 4 fluid ounces of the "Fluid Extract of *Jalap*," of another manufacturer, purchased by me for the purpose of analysis, I found 5 grains only of *Jalapin*.

I next tried the "Fluid Extract of *Cannabis Indica*." Dose said to be "10 to 20 drops, cautiously increased." I commenced by giving a patient 30 minims; it produced no effect, and between 12 $\frac{1}{2}$ and 8 P. M., this patient took $3\frac{1}{2}$ ounces, without the slightest perceptible effect. On the following night I took, within an hour, the remaining half ounce; it produced no more effect than a teaspoonful of lager beer would have done. As between my patient and myself, we dispatched the whole of this beverage, I had none left for analysis.

I wish to impress upon your memories, that "Fluid Extracts are highly concentrated solutions of the active constituents of medicines." (Wood.)

I used 2 fluid ounces of the "Fluid Extract of Ergot" upon a patient troubled with menorrhagia, without producing any uterine pains; it was given in four equal doses, at intervals of half an hour.

I have found the "Fluid Extract of Rhubarb" a mild aperient in doses of a tablespoonful—the dose recommended being from one to two teaspoonfuls; and the "Fluid Extract of Senna" a mild cathartic, in doses of two tablespoonfuls—the dose being one to three teaspoonfuls.

Ipecac Ext. acted as an emetic in a child, in doses of two teaspoonfuls. Dose directed, from 15 to 30 drops.

I submitted next 30 fluid drachms of "Fluid Extract of Red Peruvian Bark," and the same quantity of the "Fluid Extract of Calisaya Bark," and at the same time with these I submitted to analysis 30 fluid drachms of the "Fluid Extract of Red Peruvian Bark" prepared by another manufacturer, and presented to me by Dr. Gouley. The only formula for Fluid Extract of Bark in the United States Dispensatory, is that recommended by Mr. Alfred B. Taylor, of Philadelphia, and the fluid extract, or inspissated infusion of the London Pharmacopœia (*Infusum Cinchonæ Spissatum*.) In Taylor's formula, a fluid drachm of the extract represents a drachm of the bark. Of the London extract, excluding all loss, 20 minims should represent a drachm of the bark. Professor G. B. Wood, good authority on all these matters, condemns the use of any bark for pharmaceutical purposes that does not contain 2 per cent. of alkaloids, and they generally do contain between 3 and 4 per cent.

In 30 fluid drachms of Mr. Taylor's extract, at the lowest estimate, 2 per cent., there should be, therefore, 36 grains of alkaloids, and in the London extract 108 grains. In the 30 fluid drachms of the extract presented to me by Dr. Gouley, there were 3 grains of impure alkaloids; and in 30 fluid drachms of the extract of Red Bark, under consideration, there were 15 grains; and in the same amount of their extract of Calisaya Bark, there were 10 grains; and in 15 fluid drachms of the same maker's extract of Calisaya Bark, obtained by me subsequently from the Chairman of our Section, I obtained also 10 grains of alkaloids, but this was from the bottom of the bottle.

Truly, gentlemen, I may now ask, are "Fluid Extracts highly concentrated solutions of the active constituents of medicines?"

Perhaps some gentlemen here may think that, by these remarks, I intend to impugn the honesty of the manufacturers of these preparations. Such is far from my design, as I shall show hereafter. I mean but to find fault with the preparations themselves, and their methods of manufacture, and point out where the error lies.

Plants presenting all the appearance of being possessed of full remedial value, are oftentimes found on analysis to be nearly or quite deficient in any proximate principles. This is a well-known fact, and is spoken of by every author on *Materia Medica*; and yet, in spite of this fact, a given amount by weight, of a substance differing in its proximate principles in every different sample that is presented, is directed to be prepared with a given amount of menstruum, to form a certain quantity of tincture, fluid, or solid extract. So well is this understood, that for several preparations, Prof. G. B. Wood gives such precautions: "But one caution is here peculiarly important, namely, that when it becomes necessary during the use of these large doses to change the parcel of the medicine, never to use the new parcel so freely as the one last employed, lest it might prove to be much stronger, and thus endanger serious results." And yet Prof. Wood, in spite of this knowledge, directs tinctures, extracts, &c., to be made by weight and measure, with ingredients that he knows to differ in therapeutic and chemical value, and oftentimes to be utterly valueless.

Are these gentlemen, then, who follow his directions, dishonest? No! they only, like Prof. Wood, have not yet seen things in their proper light.

Who amongst us can take advantage of Prof. Wood's caution? We write prescriptions, and one day it is prepared by one druggist, and another day by another; one time, the physician is told his medicine is inefficient, and another time he is called in haste, to relieve the danger that has arisen from an over-dose. Both apothecaries have prepared their medicine under the directions of Prof. Wood's Dispensatory, but they are as unlike as winter and summer.

We know that plants, transplanted from their natural soil to one uncongenial to their development, cease to produce an active principle at all, or the active principle is changed in its character. This is a well-known fact with the soda plant, which near the sea produces *soda*, but if transplanted inland it produces *potash* instead. And yet a pound of this plant would be directed, if medicinal, to make a given quantity of extract. The dandelion root, when cultivated in our gardens, almost ceases to produce an active principle, but is largely increased in starch, sugar, and gummy matters. How many plants are there that differ in their character if grown in the North, while they are indigenous in the South. Climate, temperature, soil, and moisture make great changes in the constituents of all plants.

A gentleman informed me some time since, that during a very wet season in the East Indies, he produced much more than an average

amount of opium, but that the opium contained but a mere trace of morphia. I recollect a suit brought several years ago by a manufacturer in this city, to recover the value of a large quantity of opium, from which he could obtain scarcely any morphia; and yet 10 ounces of this opium may be used, and in this instance was used, to make a gallon of laudanum. The *Cannabis Indica* yields its exudation only in the warm, moist valleys of India; upon the hills the same plant is totally deficient in active principle. Who has not found the leaf of the *digitalis* so extremely variable in strength, that it has almost lost its place in the Dispensatory?

Who can tell at what period of the growth of a plant to gather, for medicinal use, its leaves, root, or bark? I have tried many experiments with *hyoscyamus* leaf, and have gathered from the same plant leaves, when it was early in its growth, when it was in flower, and, again, when it was in seed. They all possessed different therapeutical effects. I have tried also *conium* and *aconite* with like results. I could say much, did time allow, on this one subject, for it is full of interest; and when this matter is reconsidered, I will endeavor to present to you many facts of great interest.

Plants by keeping become stale, and differ much in their therapeutic effects, from those which are fresher. In fact, plants, commencing from the time when organic activity ceases, are liable to a chemical, destructive composition, whereby the proximate principles, by the reaction of the nutritive constituents, and by the external agency of air and moisture, are decomposed and dissipated, or enter into new combinations.

The methods of preparing fluid extracts from those medicinal plants whose active principle is soluble only in alcohol, give, to say the least, very inelegant preparations; for if the active principles are extracted by alcohol, the menstruum is distilled off, and the fluid extract, if it contains the virtues of the plant, must contain it only in suspension, not in solution, and is liable at any moment to decomposition, and it must be frequently thrown aside as sediment; or if that in the upper portion of the vial that contains it, has been used without being shaken, the lower part may contain all the active principles, and may be given in dangerous, or even fatal doses. The same principle holds good also with those whose active principle is soluble in water, for when it comes to be evaporated down, the water already highly charged with more soluble compounds, as the sugar, starch, gum, &c., refuses to hold more than a given amount in solution; it is therefore precipitated, and is liable to the same objections as before mentioned. And these

watery extracts, as they contain more of the nutritive substances of the plant, are rapidly decomposed, and in their decomposition destroy, or render inert, the medicinal principle.

Many of the fluid extracts, which, if made, should be made with strong alcohol, are prepared with diluted alcohol only, and hence fail in extracting many of the therapeutic constituents of plants; and others, if capable of extraction with diluted alcohol, are not retained in solution when extracted, and even those soluble in water are precipitated upon the evaporation of the water.

Aside from the facts of analysis, there are reasons, *a priori*, why fluid extracts cannot be relied upon to possess uniform therapeutic strength. Even admitting that the plants from which they are prepared are medicinally perfect, it can be shown that the therapeutic constituents are exposed to the same liability to decomposition in the prepared form that they were in the plant. In the preparation of fluid extracts, but little separation is effected of the nutritive from the therapeutic constituents. It is by the reaction of the nutritive substances, aided by air and moisture, that the medicinal substances are decomposed in the plant. This reaction will as readily take place in the extract as in the plant, the usually small quantity of alcohol present being insufficient to resist putrefactive tendency, and even of itself constituting an additional disintegrating agent. The nutritive substances, during the life of the plant, undergo certain transformations, which approximate more and more towards a higher degree of organization; but when the plant dies, there is a change, a retrogressive chemical action, which effects the decomposition of substances already formed. This decomposition results in the reduction of these substances into their elements, when they are either dissipated or enter into new combinations. In extracts, either solid or fluid, the resin and resinoid and neutral principles are liable to complete destruction, while the alkaloids are either held in solution by the acids formed, or form insoluble salts with combining principles; or if the decomposition proceed far, they are reduced into their original elements, and are thus completely lost, and the period required to complete this change varies from weeks to many months.

The objections to these fluid extracts, and extracts of all description, then, are, that they are not and cannot be uniform in their strength, because the plants from which they are taken possess different amounts of therapeutic properties; that they are liable, equally with the plant from which they are compounded, to destructive alterations; that each new parcel or preparation must be tested separately before its thera-

peutic value can be known; in short, that they possess no positive value.

It is only within your time, Mr. President, that the alkaloids were discovered, giving, as in these principles, *positive* characters; and the requirements of the healing art loudly demand that all agents for the cure of diseases become like positive in their character.

In Morphia we have an agent that is positive in its character; but who has used laudanum from a dozen different samples, and found it of the same relative strength? Who has not been disappointed in the sedative effects he wished to produce, and from the variable strength of the agent produced stimulations where he has looked for sedation?

What has been done in extracting the Morphia, the active principle from the opium, may be done with every other vegetable remedy! Nay, sir—*it must be done!* for by this means, and this alone, can a physician know with certainty how much of a medicine he is giving.

Of the therapeutic effects of medicines there may be disputes, but in their pharmaceutical preparations there need not, in this age of chemical advancement, be any room left for cavil; for chemical analysis can at all times settle such disputes, and guide us rightly in the path of discovery.

Do not understand me to say, that I think the alkaloids, and the alkaloids only, to contain the whole therapeutic constituents of plants; this I do not assert to be the case, for many plants have different therapeutic effects from their alkaloids, and do contain several principles which give them their medicinal effects. I merely mean, that the active constituents of plants, whatever they may be, should be so isolated from the nutritive principles as to prevent them from deteriorating, or changing in their character; and as they vary in amount in different specimens, they must be isolated, so that we may know what amount of active principle we are using, and, without the necessity of testing our medicines, know the exact amount to administer.

Since the times of Hippocrates, physicians have been as tenacious of their opinions as we are at this day; and yet, in spite of opposition, truth has gradually gained ground; and there have been as many brilliant discoveries made in medicine as in any other of the arts and sciences; and there has been as much opposition to them as to all other discoveries; but the day has come—because the requirements of mankind demand it—that all medicinal agents shall be made as positive in their character as quinia, morphia, strychnia, or veratria; and our descendants will wonder how we succeeded in curing diseases with such *imperfect remedies*, and will laugh at our pharmaceutical prepara-

tions, as we now laugh at the herbal of old Culpepper, arranged under the influence of the planets.

I have labored hard, Mr. President, for many years, in my humble way, to bring about this improvement, for I have long felt the inaccuracies of the present system, and have tried to remove them. The labors you have thought fit to put upon me have forced out these truths, for I know and feel that they are truths, and like all other truths that are of interest to humanity, they will spread like light.

Notes of Eight Cases, in which large quantities of Opium had been taken, by accident or design—all recovering. By JOHN McNULTY, M.D. New York. Fellow of the Academy of Medicine.

[Read before the Academy of Medicine, and printed by permission.]

I do not claim for the notes I am about to present, the dignity of a "paper;" they are not offered as such, they are not intended as such, being simply a recital of the notes of cases that have fallen under my personal observation in private practice, in which very large quantities of Opium, in one form or another, were taken. In two of the cases the doses were so incredible, that I should hesitate to state them, (although I fully believe the quantities indicated were positively taken,) had I not read in the October number of the *London Lancet* a paper by Geo. D. Gibb, M.D., on some cases, in one of which 3xii. of laudanum were taken, and retained 9 hours in the stomach, without symptoms of poisoning to any great extent, the patient recovering under slight treatment. Dr. Gibb quotes in his paper the case related by Dr. Christison, in which 3iii. of laudanum were taken in two equal doses one hour apart; stupor did not set in until the 18th hour, and in two hours more symptoms of poisoning were of an alarming kind. He also quotes the case related by Dr. Taylor, of a medical student who swallowed 3iv. of laudanum, at 9 P.M., went to bed, slept till 6 A.M. next morning, when he vomited, and recovered without any treatment.

These cases encourage me to report those that I have seen, though I have hesitated to do so on account of the apparently improbable statements they contain.

Case I.—A woman living in Greenwich Street, near Cedar Street, Mrs. B——, aged about 30, married, unhappy in her domestic life, attempted suicide by laudanum. She took at 10 A.M., (as she afterwards informed me a six-pence worth, on inquiring at the drug store

I found it to be ʒj. of laudanum. I was called at 3 P.M., 5 hours after the laudanum had been taken. She had not vomited, stupor well marked, pupils contracted; she articulated when roused like a drunken person; I gave her a large dose of sulph. zinc, in warm water; vomiting soon followed of a liquid having the color of weak coffee, and a strong odor of laudanum. I gave warm water freely, keeping up the vomiting as long as desired; then I gave strong coffee, constant exercise, &c. She recovered.

Case II.—I was called to see the child of a German grocer, in Greenwich Street, near Fulton Street, aged 9 months, suffering with catarrh, and severe cough. I ordered an expectorant mixture, in which I desired to give ʒj. of laudanum, in the proportion of m ij. in each teaspoonful, which was to be given every two hours. In making out the prescription, I wrote the character ʒ. instead of the 3. , thus giving m xvi. instead of m ij. at each dose. This was bad enough, but to make bad worse, the father of the child thought the time between the doses too long, so he gave it every half hour; the child had taken four doses, when the mother became alarmed and sent for me; I saw the child 3 hours after it had taken the first dose; it had now taken m 64 of laudanum. Symptoms of poisoning had set in, no vomiting had occurred, nor could it be produced to any extent by the means used for that purpose, (I did not use the sulph. zinc;) external stimulation with *spts. camph.* was kept up for some hours, the child was frequently shaken and roused as much as possible, and recovered.

Case III.—A jeweler, in Greenwich Street, near Courtlandt Street, aged 53, who had been on a hard spree, took ʒj. of laudanum, and half a pint of common alcohol. Time of taking it unknown, probably about one hour before I saw him. I found him perfectly insensible, all the symptoms of poisoning by Opium well marked; I pried open his mouth, and used the stomach pump; I pumped in strong coffee and washed the stomach out clean with the coffee, then threw in more coffee, and allowed it to remain, kept him moving around, used external stimulants and friction, and as he began to rouse up I gave him oyster soup, freely, and more coffee; he recovered, but two years afterwards committed suicide by laudanum, during my absence from the city.

Case IV.—A man, 45 years of age, native of Canada, stopping at the Jersey Hotel, in Courtlandt Street, had been dissipating desperately for three weeks. He determined to commit suicide, and when I saw him first he was in a drug store, questioning the clerk about their sulphate of morphia, saying that it was either impure, or that they had

deceived him by selling him something else than morphia the day before. To prove that the drug was pure, and that they had not deceived him, the clerk got the bottle from which he had sold him 25 grs., (good weight, for when he bought it they supposed him to be a country physician, he having asked for it so off-hand,) and told him he could have the article tested. He then asked how much it would take to kill a man. This frightened the clerk, and he asked why the inquiry was made. The man replied, because he had taken the whole of the morphia he had bought of him the day before, for that purpose, at 9 o'clock on going to bed, (this was at 10 A. M., of the following day,) and that it had no effect; and further, that he had bought 15 grs. two days before for the same purpose and taken it, without any effect, but he did not believe it was morphia, although it tasted bitter, the same as that which he had bought of them. I could not believe this man's story, he had none of the symptoms of poisoning by opium; he had that wild, restless look and action of a man at the beginning of delirium tremens; I questioned and cross-questioned him; I took him to my office and talked with him a long time on other subjects, gradually and indirectly referring to the subject, but he persisted that he had really taken the whole of the morphia, and described the minutiae of how he prepared it, its taste, &c. &c. I went to his hotel, found the paper labelled morphia, found a tumbler with a few drops of clear liquid in it having the intense bitter taste of morphia; I examined all the vessels in the room, and he certainly had not vomited in the room; he said he had not vomited at all, or been to the water closet, and on making inquiries of the employees about the house this appeared to be true. I again exercised my ingenuity in questioning him, but he still affirmed that he had taken it; and further, that he would yet commit suicide, and he certainly did make at least two, and I believe, three attempts at suicide by drowning, as the police records will show, within one month from that time. After his first attempt by drowning, I had him arrested as a lunatic, but some of his drunken companions got him released in a day or so, and after he had escaped death by his own act, in many ways, some person succeeded in getting him out of the city and back to his friends. I took a sample of the morphia to Dr. Bailey, late Drug Inspector, (it was manufactured by Powers & Weightman, of Philadelphia,) he examined it and pronounced it pure. Powers & Weightman heard of the case and wrote to me for all the facts connected with it; I complied with their request. The circumstances were so strong that they were satisfied that the man had positively taken the 25 grs. In their

reply, they stated that their chemist, (a German,) had known of two or three cases in Germany, in which nearly as large doses were taken for the same purpose, with like results. If this man did take the 25 grs. of morphia, we see that a condition of system may exist, in which the equivalent of 150 grs. of opium, taken at a single dose, may not produce death or symptoms of poisoning. This man received no treatment.

Case V.—A prostitute, aged about 22 years, took ℥ii. of laudanum at 6 P. M., for the purpose of suicide. I was called at 10 P. M.; stupor was well marked, pupils contracted, &c., &c. I gave her a large dose of sulphate of zinc, in warm water; vomiting of a brownish liquid, having the odor of laudanum, followed almost immediately. Vomiting kept up by warm water, patient constantly exercised; in a short time I gave strong coffee, and the woman recovered.

Case VI.—The next day, while in a drug store, a woman about 50 years of age came in, acting strangely; the proprietor, supposing her intoxicated, was about putting her out, when I happened to notice the peculiar expression so marked in persons under the poisonous effects of opium. On closer examination, I became satisfied she had taken opium in some form with suicidal intention. I gave her a large dose of sulphate of zinc, in fact poured it down her throat, as she would not drink. I tickled the fauces with a feather; she soon vomited a quantity of brownish liquid, having a strong smell of laudanum; I gave her warm water, which vomited her more. I then gave her some bitter tincture, (I think quassia,) in water; she was kept constantly moving, and eventually recovered. The quantity taken was not known, or the time that elapsed; I supposed the quantity to be about ℥ii., judging only by the appearance of the discharges from the stomach.

Case VII.—Mrs. ——— had suffered a severe domestic bereavement, which was followed by an attack of illness, lasting for about 10 days. When convalescent, she got into a carriage for a ride; while out she bought at Rushton's drug store ℥vi. of laudanum, they supposing she wanted it to keep in the house for family uses, her respectability removing all suspicion of suicide. At 9 P. M. she went to her room, prepared for bed, drank the laudanum, threw the bottle into the back yard of the next house, which was unoccupied, went to bed and to sleep. The next morning, at breakfast time, the servant went to her room, but finding her asleep, as she supposed, went away; about 10 A. M. the servant went again to her room, finding her the same spoke to her, but, getting no answer, she shook her; when this

did not rouse her the servant became frightened, alarmed the family, and I was sent for. I arrived at 11, A. M.; found the patient in deep stupor; she had not vomited. The symptoms were so striking, that I at once suspected poisoning by opium. She could be slightly roused by violent shaking and speaking in a loud, sharp voice. I poured down the throat a large dose of sulphate of zinc, tickled the fauces with a feather, kept shaking the patient, and in about 10 minutes she vomited at least a pint and a half of liquid, the color of *strong* coffee, and having a very *rānk* odor of laudanum. The sulphate of zinc was repeated; further vomiting followed, having a strong smell of laudanum; the vomiting was kept up with warm water, the patient constantly moving around. Strong coffee was now given; at first it was vomited, but after a short time the stomach became quiet, and consciousness returned in a great measure at the end of an hour's treatment; enough so that she gave me the entire history of her getting the laudanum, when and how she took it, and what she had done with the bottle, &c. She recovered. As strange and incredible as this case appears, I firmly believe it is true to the letter. 1st. Because the lady made precisely the same statement of all the facts in the case when consciousness had only in part returned, that she has ever since made, and I have talked with her often on the subject. 2d. I went into the yard of the next house, and in the precise part where she said it struck in the grass, I found a 3vi. bottle, labelled laudanum; the label was Rushton's; the bottle was corked up; it contained a few drops of liquid; I had it tested; it proved to be laudanum of full strength, m xix. gave gr. i. of opium. 3d. I thoroughly searched every vessel and all parts of the immediate premises, but no traces of laudanum, (except a stain in the bottom of the tumbler out of which she had drank the laudanum,) or anything indicating that the laudanum had been spilt, spit out, or vomited; in short, every evidence, except personal observation, go to show that she did positively drink the 3vi. of laudanum 14 hours before I saw her.

Case VIII.—A gunsmith's child in Fulton Street, aged one year; the mother gave it a *large* teaspoonful of laudanum, by mistake, for syrup of ipecac. Forty minutes after I saw the child; it was drowsy, but could be roused without much trouble. I gave the syrup of ipecac freely, as it was at hand, and ordered sulphate of zinc. The ipecac vomited but slightly; when the sulphate of zinc came I gave it in warm water; free vomiting followed immediately. I then gave strong coffee, which was also vomited at first, but was soon retained, and the child recovered.

It will be seen that six of the eight cases were attempts at suicide, and that in all of them large quantities of opium were taken, the smallest quantity being ʒi. of laudanum; the largest 25 grs. of sulphate of morphia in one case, and ʒvi. of laudanum in another. In four of the cases the time between taking the laudanum and when medical assistance arrived is known, viz., 5, 4, 13 and 14 hours. One of the cases appears so improbable, from the quantity taken, and the fact that no poisonous effects followed it, (although he received no medical treatment,) that I have often asked myself the question, was I not, in spite of all my questioning, caution, and examination, deceived? But, on reflection, I am compelled to answer I do fully believe it was really taken; and since the case has occurred in which ʒvi. of laudanum was taken, I am more confirmed in the belief that it is possible for a man, coming out of a long drunken frolic, to take 25 grains of sulphate of morphia and experience no poisonous effects from it. I am unable to give any explanation, that is perfectly satisfactory to myself, why death should not have resulted in both of the cases in which such unheard-of doses were taken, especially when the time that had elapsed after taking the drug, and before medical relief was obtained, (in one no treatment was received,) is taken into consideration. All the patients I have had who have attempted suicide, (except case iv.,) have used opium in some form as the agent.

I wish to make one remark on the use of sulphate of zinc as an emetic in these cases. My rule is to give it in large doses—by that I mean doses of ʒi. or over. My reasons are, 1st, to insure greater certainty of action, as I suppose the safety of the patient depends on removing the opium from the stomach, and I know of no agent so certain as sulphate of zinc in large doses, given in warm water. I have never seen, nor do I fear the poisonous effects, attributed to zinc in works on toxicology. I believe the magnitude of the dose, in a measure, carries protection with it, especially so when we consider the after-treatment; and further, the stomach is so profoundly under the influence of the opium, that I believe the danger of poisoning by zinc is greatly lessened in these cases. Finally the urgency of the case calls for heroic treatment.

In conclusion, I would respectfully ask, have we not somewhat over-estimated the poisoning qualities of opium? If not, I would ask, what is the peculiar condition of system, or under what circumstances, and why is it, that the system is enabled at times to withstand such monstrous quantities of opium?

A Case of unusually large Development of the Human Fœtus. By CHARLES A. BUDD, M.D., Lecturer on Obstetrics in the New York Medical College, Fellow of the N. Y. Academy of Medicine, &c., &c.

Upon referring to the different accepted authorities on the science of Obstetrics, we find, as the average, the following dimensions accorded to the full-grown healthy fœtus at the full period of utero-gestation. *Length* from the crown to the heel, between 19 and 20 inches. *Weight* rather less than seven pounds; and from a large number recorded by different observers, it is now an accepted fact, that as a rule, male infants are, at birth, a trifle longer and heavier than female. Cases of extraordinary development have from time to time been brought before the notice of the profession. For instance, Beaudelocque reports having seen one child which weighed, at birth, *thirteen* pounds, and another twelve. Sir Richard Croft reported an instance to Dr Ramsbotham, Jr., of an infant born alive, weighing *fifteen* pounds; and Ramsbotham, the elder, is stated to have delivered a woman of one weighing *sixteen and a half pounds* avoirdupois. Mr. Bloxam relates a case in the *London Lancet*, where he delivered a child by the forceps, which weighed *seventeen pounds and twelve ounces*, and whose length was *twenty-four inches*. This last is, as far as I have been able to ascertain, the largest one on record. The following case I extract from my note book, as being (in my opinion) sufficiently interesting to be placed upon record. I was called on the morning of February 19th, 1857, at five o'clock, to see Mrs. L., in consultation with Dr. Sitler, of this city, in labor with her eighth child. I ascertained from the doctor that she had been in hard and vigorous labor since ten o'clock the evening previous without any advance being made in the head, which was presenting. I also ascertained that her previous labors had all been tedious and severe, although they had terminated without the interference of art. The uterine contractions were as severe as any I have ever witnessed, and, upon making an examination, I found the pelvis well formed, though of somewhat smaller capacity than the average—the head, as I have said, was presenting—having engaged at the superior strait in the “*right occipito iliac anterior*” position, and was *but slightly, if at all flexed*; in fact I could, with two fingers in the vagina, distinctly recognize both fontanelles, so that the *occipito-frontal* diameter of the fœtal head was parallel with the right oblique diameter of the superior strait. I immediately applied the long forceps and endeavored to flex the head, and thus suffer the mechanism of labor to go on undisturbed; but, after repeated trials, I found it a physical impossibility

to make the slightest impression upon it, so thoroughly had it become wedged. Fearing rupture of the uterus, I perforated and extracted with the crochet a foetus of the following dimensions:

Length, $23\frac{1}{2}$ inches. Weight, (without the brain,) a trifle over 12 pounds; bi-trochanteric circumference, $3\frac{3}{8}$ inches; bis acromial circumference, $16\frac{5}{8}$ inches; occipito-frontal circumference after the entire encephalon had been evacuated, nearly the whole of one parietal bone gone and all the sutures overlapping, $14\frac{1}{4}$ inches. I have neglected to note, and my memory does not serve me as to the sex of the child.

143 EAST 13TH STREET, *New York*, Feb. 13th, 1858.

On a Substitute for Human Milk. By WILLIAM H. CUMMING, M.D.

Artificial lactation is the subject of this paper. In order to prepare our minds for its proper consideration, it will be well to examine the natural function in its normal state.

Lactation exists as a function only among the Mammalia. These derive their title as a class from the existence of the organs of this function. Whether they spend their lives in the water or on the land, whether they swim or creep, or walk or climb, or fly, they all have milk-producing organs; they all suckle their young.

And yet there are foreshadowings of lactation far down the scale of being. The bees and wasps and ants prepare a supply of food for their young, and the larva on his emergence from the egg, finds this provision near at hand and amply sufficient for his wants.

Many birds bring insects and worms to their yet unfledged young. The swallow and the wren are familiar examples of this. Nothing can exceed the diligence and assiduity with which they devote themselves to this important work of artificial lactation. The pigeon comes still nearer to the mammalia in this matter, for it supplies to its young an abundance of partly-digested food. The fact has not escaped notice, and "*pigeon milk*" is the name of this article of diet.

The truth is, that most animals leave the egg or the womb in a state of development in which they are unable to obtain and use the ordinary food of their kind. In most cases their organs of locomotion do not enable them to obtain this food. The larva of the bee cannot fly, the puppy cannot walk, the monkey cannot climb, the beaver cannot swim. Nor can they in most cases masticate and digest such food as their parents use. The teeth are ordinarily still within the gum, and do not appear for some time after birth. Most of these

animals, therefore, absolutely require for their sustenance and growth a peculiar food suited to their actual condition.

What then is lactation? It is the secreting from their own blood, in organs then and then only active, and the furnishing to their new-born young, a liquid food suited to the various degrees of their development at birth, and the continuing to furnish the supply, until the young animal has become able to use the ordinary food of his race.

This secretion is continued much longer in some animals than in others. The young are not born in the same state of development. The young of the Marsupials leave the womb while yet in an embryotic state. The ruminants stand at the other extreme. Between these the other orders range themselves. In order to fix this fact in our minds, let us compare those animals with which we are most familiar. Compare the rat, the puppy, the kitten, with the colt, the lamb, the calf. Blindness, weakness and deformity mark the former; while the latter are able to see and hear and walk. How soon do the young ruminants follow their dams, skipping and running as they go. The states of development at birth are thus seen to vary greatly.

The nature of the future food of the young animal has an important connection with the length of lactation. The digestion of grass and grain and roots requires more gastric energy than that of worms and insects and flesh. In conformity with this, is the fact, that the graminivorous animals furnish milk to their young until the latter are very much more developed than the carnivora are when they are weaned.

We have used the word Milk. What is Milk? It is a general term for the various products of the mammary glands of different animals. It is the name for the food furnished by these mothers to their young. Milk is a white, opaque, oily liquid. Its color is not pure white, but verging on yellow. In some animals it is sweet, containing notable quantities of sugar. But in all it contains three great constituents—butter, cheese and water.

We have said that milk is suited to the wants of the young animal. It consists universally of two classes of food; oily materials containing no azote, and caseous substances holding in combination mineral salts, and admirably adapted to the growth of the body.

It is suited to the wants of the young animal. What is the first want of a new-born animal of this class? Warmth. He has been, during the previous stage of his existence, surrounded by tissues of the temperature of 100°. He is now out in the open air, or in still colder water, the heat of his body rapidly radiated or conducted into

these cooler media. This loss of heat does not lower his temperature, for there is an internal supply. At the moment of his birth, respiration commenced, and the oxygen of the air combining with the oil of his body, evolves heat sufficient to replace that which is lost. But this consumption of oil cannot be long continued, unless the supply be renewed. The body will be soon reduced to a state of extreme emaciation, and death from cold must follow.

A supply of oil is then the first want of the young animal. The lamp of life must be fed, or it will speedily go out. The milk contains oil in proper proportion for this purpose. This oil is butter.

But not only must the vital heat be maintained, the tissues of the child must grow. The materials for the growth of the tissues are supplied by the casein or albuminous portion of the milk. The name casein is applied to a group of substances having an almost identical chemical composition. Indeed it has until recently been supposed to be identical. But it has been ascertained by Quevenne, that while their organic composition seems the same, they hold in combination different proportions of mineral insoluble salts. Thus, phosphate of lime (the bone earth) exists in different proportions in suspended casein, in dissolved casein, in albumen, and albuminose. These four substances also differ in the effects produced upon them by different agents. Thus, while suspended casein is coagulated by a small quantity of rennet, the dissolved casein, the albumen, and the albuminose are unaffected by it. Thus, while the albumen is coagulated by ebullition of the milk, the other three constituents of the casein are unaffected. Nitric acid produces the same effect without the agency of heat.

In the present state of our knowledge on this subject, we can only say that these four substances, by the action of the gastric juice, seem to be all converted into albuminose, and to be in this form absorbed into the system.

Thus constituted, having both azotised and unazotised elements, the milk is suited to supply the wants of the animal, and to promote his growth and development.

These general statements concerning lactation are applicable to the function as existing in the woman. An element which is not universally but very generally found in milk, exists in human milk in the proportion of 0.075, we refer to the sugar. Of the uses of the sugar we are not so well informed. There is reason to believe that it contributes principally to the maintenance of the heat of the body.

We come now to the subject of artificial lactation. Sometimes by

the death of the mother, more frequently by her failure to secrete enough milk, the child is deprived of the needed supply. Something must be done for the famishing infant. In a few cases, we may have recourse to another woman for the needed food. Few good nurses, however, can be found. In the cities, there are by no means enough to supply the demand for human milk; in the country, they can scarcely ever be obtained. In this country we can find no permanent, reliable supply of milk, except that furnished by the cow. The question is, Can artificial lactation be successfully performed by means of the milk of the cow? This is a question of great interest to medical practitioners, as well as to parents.

In using cow's milk as a substitute for the natural food of infants, great difficulties are found. These arise from the difference of composition of the two kinds of milk—thus:

<i>Cow's Milk is composed of</i>	{	Butter,	38.59	<i>While Human Milk is composed of</i>	{	Butter,	20.76
		Casein,	40.75			Casein,	14.34
		Sugar,	53.97			Sugar,	75.02
		Water,	866.69			Water,	889.88

If we so dilute cow's milk as to reduce the butter to 20.76, we shall have 21.92 of casein, or 50 per cent. more than in human milk. This excess of casein leads to serious indigestion, with consequent gastric and intestinal disorders.

If, on the other hand, we reduce by still farther dilution the casein to 14.34, we shall have only 13.58 of butter, or less than two-thirds of the proper proportion. This deficiency of butter does not produce such immediate disturbance as we have stated to follow the excess of casein, but its permanent influence is most injurious.

First, because there is a deficiency of the material needed for the production of heat. If the temperature of the body be lowered, all the functions languish, and the child is unable to resist the hurtful influence of atmospheric changes.

Secondly, this deficiency of butter implies a corresponding deficiency of the phosphureted oil (lecithine) of the milk, the proper and peculiar nutriment of the nervous system, which exists in butter in the proportion of 8 per cent. or one-twelfth. If there be a deficiency of one-third of the butter, there will be of necessity, a corresponding deficiency of one-third of this phosphureted oil. As the child, during the first year of his life, should take from 1,000 to 1,400 lbs. of milk containing from 20.76 to 29.06 lbs. of butter, the annual deficiency of this phosphureted oil would be from 0.5536 to 0.7749 lb.; that is, from nine to twelve ounces. The natural consequence of this defi-

ciency of *nerve food* is failure of *nervous energy*, and imperfect performance of *nerve functions*. The various processes languish, and calorification, circulation, absorption, digestion and secretion all feel the depression.

The proper remedy for these evils, is to provide a milk much richer in butter than the ordinary milk of the cow. If we leave a quantity of cow's milk at rest for four or five hours, and then carefully remove and examine the upper third, we find that it contains about 50 per cent. more butter than at first. In round numbers, the butter is to the casein as 57 to 40, or as 100 to 70. Now this is the relation between these two substances in human milk. If we then so dilute this new milk as to reduce the casein to 14.34 thousandths, we shall have 20.76 thousandths of butter. This is just what we need (with the addition of sugar) as an accurate imitation of human milk, and, therefore, a good substitute for it.

Take, then, ordinary cow's milk and let it stand for four or five hours. For a child three months old, $2\frac{1}{4}$ quarts will be needed. Take the upper third, ($1\frac{1}{2}$ pints,) and add to it $2\frac{1}{4}$ pints of water; sweeten it with the best sugar, of which $2\frac{2}{3}$ ounces will be required. It should be made somewhat sweeter to the taste than ordinary cow's milk.

A child three months old will take from 48 to 60 fluid ounces, daily, in six or seven doses of a half pint each.

It should be given from a bottle—*suction being the only proper mode of feeding for a young child*.

Its temperature should be from 100° to 104° . It should be warmed again if it becomes cool while the child is taking it.

The child should be early trained to pass 6 or 8 hours at night without feeding.

The kind of bottle, which for cheapness and convenience is most advantageous, is a plain 8 ounce vial, of an elliptical form. The artificial nipple is best made by rolling a quill in soft muslin and forcing this into the neck of the vial, leaving about three fourths of an inch projecting from the neck. The ease with which the muslin may be unrolled and thoroughly washed, gives this arrangement a superiority over every other, especially in warm weather. The quill also may be readily cleaned.

The child should be fed at intervals of three or three and a half hours. Regularity in this respect is very advantageous.

During the first month, the child needs food of different composition. There should be more butter in proportion to the casein. In

order to obtain this increased proportion of butter, let the upper *eighth* of the milk be taken instead of the upper *third*. This milk contains from 70 to 80 thousandths of butter. It should be diluted with 2.6 parts of water.

For a child from 3 to 10 days old.				Milk 1000	Water 2643	Sugar 243
"	"	10 to 30	"	"	" 2500	" 225
"	"	1 month old.	"	"	" 2250	" 204
"	"	2	"	"	" 1850	" 172
"	"	3	"	"	" 1500	" 144
"	"	4	"	"	" 1250	" 124
"	"	5	"	"	" 1000	" 104
"	"	6	"	"	" 875	" 94
"	"	7	"	"	" 750	" 84
"	"	9	"	"	" 675	" 78
"	"	11	"	"	" 625	" 73
"	"	14	"	"	" 550	" 67
"	"	18	"	"	" 500	" 63

By thus gradually diminishing the proportion of water, we furnish the child a milk containing an ever-increasing proportion of nutritive matter.

How long should artificial lactation be continued? The only answer to this is, "until the child has become able to use ordinary human food." The child should be fed with milk until his organs of mastication and his powers of digestion render it best for him to have other food. And at what age does this condition exist? Children vary so much in the rate of their development, that no answer can be given applicable to all cases. In a vigorous child the first dentition is usually completed at two years of age. Sometimes this appearance of the full complement of teeth takes place six months earlier, and sometimes six months later. Whenever this first dentition is completed, the child has the full masticating apparatus of childhood, and may receive other food than milk. In many cases, lactation must be continued until the age of three years. And it may be safely presumed, that no food will be found so suitable for the tardily-developed child as that which divine wisdom has prepared for the purpose of promoting this development. As an article of food for adults, milk is of great value. Entire races of men rely upon it, and it seems, when thus largely and permanently used, to promote strength and vigor. For the formation of teeth and bones, its phosphate of lime is indispensable, and no other food suited to a feeble child contains so much in intimate union with organic elements.

Nothing has been said of any other mode of artificial lactation. This omission is not accidental. The truth is, that milk is *the only*

material that inspires or even warrants any hope of real success. By this is not meant to say that all children reared otherwise die, but that good, physiologically good results do not follow the use of any other food. Children may *survive* months of arrow-root or other farinaceous food, but a normal, healthy, happy, vigorous, steady, ever-advancing development was never yet attained in this way. The human stomach has no creative power. The materials must be furnished, or the building cannot rise. Lecithine must be given, or the nervous energy declines. Without phosphate of lime, how shall the teeth and bones be made?

If we examine the constitution of the blood, we shall find what materials go to make the human body. What are these? Oxygen, hydrogen, carbon, azote, chlorine, fluorine, iodine, sulphur, phosphorus, silicon, potassium, sodium, calcium, magnesium, iron and manganese. Of these sixteen substances, all are found in milk. And not only so, but they exist in the milk in the same combinations as in the blood. Not only have we chlorine and sodium, but we have chloride of sodium; not merely phosphorus and calcium, but phosphate of lime already prepared for use. Not only have we oxygen and hydrogen and carbon, but we have ten different oils already existing in the milk. We have four different protein compounds, each holding in combination a definite proportion of phosphate of lime. Thus, and in all probability thus only, can this invaluable, but insoluble salt be introduced into the tissues, and give strength and firmness to the frame. Why, then, with this evident adaptation of milk to the development of the body, should we look for other articles of food? Among all the substances now used, none can make any such claim. Indeed, it may be safely said, that milk is an article standing alone, prepared expressly for this one purpose, and challenging all competition.

If the attempt made in this paper to show that the milk of the cow may be so modified as to suit the peculiar wants and condition of the infant, has been at all successful, there is ground for hope that much suffering may be relieved, and many lives saved. The subject is one of great importance, and demands the earnest consideration of the medical profession. To them the eyes of anxious and sorrowful parents are turned for help; if aid can be given, let it not be withheld.

REVIEWS AND BIBLIOGRAPHY.

Ozone, or Chemical, Meteorological, Physiological, and Medical Researches into the Nature of Electrized Oxygen. By H. SCOUTETTEN, Professor of Medicine, Chief Physician of the Military Hospital at Metz, &c., &c. Paris: Victor Masson. 1856. pp. 287.

In 1839, Professor Schœnbein had his attention particularly directed to the odor which oxygen liberated in the electrolysis of water possesses. He had previously noticed the peculiar odor which is developed in the passage of static electricity through atmospheric air. Van Marum, in the 18th century, had also noticed the latter fact, having experimented with the view of ascertaining what effect a series of electric sparks would have upon oxygen gas, and he announced, as his conclusion, that this odor was most certainly that of the electrical material. Schœnbein believed at first that the odorous substance was a member of the class of bodies to which chlorine and bromine belong; that it was a new elementary substance, and he named it *ozone*, from the Greek word *ozo*, to smell. Later, he announced that he had decomposed nitrogen, and found that it was formed of hydrogen and ozone, and this error resulted from the circumstance that he found phenomena attendant upon an examination of the new substance which really resembled those of a nitrogenous compound.

Osaron showed that the same effects were produced by the ozone existing in the atmosphere, naturally, and by that which was formed from the action of electricity. Williamson, however, asserted that this could not be so, declaring that ozone, when decomposed, furnished water and hydrogen gas, and hence it must be a degree of oxidation of hydrogen greater than water. He endeavored to show that the substance which was formed by the action of electricity in the air was simply nitric acid; and Davy had already shown that electric action would produce this acid. About the same time, Schœnbein relinquishing his idea that ozone was a nitrogenous compound, came to the conclusion that it was a peroxide of hydrogen. Marignac combatted this idea, in a letter written to Dumas, March 10th, 1845, advancing the conjecture that the substance was simply oxygen; and De La Rive confirmed this in a letter to Arago, April 28, of the same year. The latter had produced ozone by passing a succession of electric sparks from an ordinary machine, through a tube filled with pure and perfectly dry oxygen. Berzelius then advances the opinion that it was oxygen in a peculiar condition, not unlike the allotropic character which other substances in chemistry are known to possess.

Such was the state of opinion when the researches of Fremy and

Becquerel gave the world a more satisfactory account of the nature of the substance, free from the charge of mere conjecture. The problem they undertook to solve was this—whether a volume of “pure and dry oxygen gas could, under the influence of electricity, be converted into a substance completely absorbable by iodide of potassium and by the different metals.” They showed, first, if galvanic electricity possesses sufficient force, the oxygen gas eliminated in an electrolysis is possessed of a powerful odor. Paper, which had been dipped in a solution of starch and iodide of potassium, was placed in a tube filled with oxygen so that the points of wires connected with an universal excitor should be on both sides. A bluish coloration was immediately the result; when the tube was filled with oxygen, no such result was obtained. The oxygen employed was derived from different substances in the laboratory as its source, and was submitted to the action of the most energetic purifying agents before it was experimented upon. Caustic potassa and sulphuric acid were employed, and the oxygen was also made to pass through a tube of porcelain at a red heat. But after all these purifications, when it was submitted to the electric spark, it soon assumed a peculiar odor and an exceedingly energetic oxidizing power. After the oxygen had been electrized, if brought into contact with a solution of iodide of potassium, a moistened slip of silver, or mercury moistened, rapid oxidation ensued, and the absorption of the gas was completed in a few hours. Scoutetten contrived a series of experiments to show that neither oxygen nor electricity, separately, had any action on the iodide of potassium. The results of the experiments of Fremy and Becquerel, along with those of Scoutetten, are satisfactory as to the chemical nature of ozone being simply electrized oxygen; and though the original name is retained, yet no one advocates the theory that gave rise to the name, viz., that of its being a new elementary substance.

Ozone can be best artificially prepared by placing a small quantity of water in a glass jar or balloon, and then laying a few sticks of phosphorus in the water, so that one half shall be under it and one half exposed to the air. The vessel being imperfectly closed, the temperature is to be raised to about 60° or 80° . When the operation is complete, a peculiar odor will be recognized. The vessel can then be reversed in a vessel of water so that the phosphorus can be removed and the gas washed. The vapors of phosphorus have combined with a portion of the atmospheric oxygen present, and formed hypophosphoric acid, which dissolves in water; “this chemical combination gives rise to the disengagement of electricity, which then acts on the

remainder of the oxygen of the air, and produces ozone." The air in the vessel must be of the ordinary barometric pressure; if compressed so as to occupy but one fifth or one sixth of its original volume, there will be no ozone formed unless the temperature be elevated. Olefiant gas and nitrous vapors prevent its formation. Rarefaction of the air, or of the oxygen used, ensures its speedy formation. Hydrogen gas acts in the same way; and if a mixture of four parts of hydrogen and one of oxygen be employed, as moist as possible, at 76° , the formation of ozone takes place so rapidly that the phosphorus is ignited and the mixture made explosive.

Ozone is a colorless gas, with a nauseous, penetrating odor, which is recognized as the same given off during the use of an ordinary electric machine, and so closely resembling that of burning phosphorus. It is the most powerful oxidating agent known—oxidating moist silver and mercury in the cold, decomposing a solution of iodide of potassium, and causing it to acquire a very marked yellowish tint. These effects require moisture as a necessary condition; without it, they will not take place. If ozone is passed through a tube heated up to 482° F., it is entirely destroyed. It destroys organic coloring substances promptly, as well as ligneous and albuminous substances; combines with chlorine, iodine, and bromine, and forms chloric acid, &c. It *destroys* sulphureted hydrogen, seleniureted hydrogen, &c., and converts sulphurous acid, nitrous acid, &c., by oxidizing them into sulphuric, nitric acid, &c. It affords a precipitate in an alkaline solution of the peroxide of lead; decomposes rapidly all the salts of the protoxide of manganese, producing the peroxide, whence a slip of paper saturated with a solution of the sulphate of the protoxide of manganese may be employed as a test of its presence. Ferrocyanide of potassium is converted into ferricyanide by its action. Many of the metallic sulphides are converted by it into sulphates. It is rapidly absorbed by albumen, casein, fibrine, blood, &c. It destroys all oxidizable miasms, and is the most powerful of all disinfectants. Physiologically, "it excites the lungs, provokes coughing and a sensation of suffocation, and is, in sufficient quantity, a substance deleterious and sufficiently toxic to occasion death."

The best re-agent for the determination of ozone in the atmosphere, is paper saturated with starch and iodide of potassium. Scoutetten gives minute directions for the preparation of these ozonometric papers. From 100 to 200 grammes of distilled water are employed as the solvent of one gramme of iodide of potassium; ten grammes of pulverized starch are then added, and the mixture of the solution with the

starch is effected by stirring with a glass rod. The mixture, in a porcelain capsule, is then placed on a slow fire and stirred until it assumes the characteristics of liquid glue. Sweedish filter-paper is now to be procured, and the test mixture may be applied with an ordinary brush, and when the paper is dry it may be cut into strips four inches long and one inch wide. A better method of preparing the test paper, is to have it cut into bands, one inch wide, and fastening a noose of thread at each end to draw the paper through the mixture. It should then be drawn between two glass rods, held slightly separate, so as to remove the superfluous material, and be dried on glass rods in an apartment perfectly free from dust. The paper should be preserved in a box or air-tight jar. When thus preserved it is not injured by age, unless the starch should scale and fall off.

There are objections to the employment of filter paper, based upon its unevenness and the readiness with which it may be torn. Hence, Scoutetten prefers ordinary letter paper, especially that which has been glazed. This he first soaks for 12 hours in a solution of iodide of potassium, (one gramme to 100 of water,) and after drying applies the mixture just mentioned. If the rags of which the paper is formed have been bleached by chlorine, a small quantity of this agent will remain in the paper and will produce a slight reaction on the iodide, resulting in a delicate reddish tint. This, however, will not modify the action of the ozone on the iodureted starch paper, although it is always better to have paper free from chlorine.

Paper thus prepared, when exposed to an ozonic atmosphere, soon shows an alteration of color, becoming first yellow, then acquiring a darker shade, until finally, if there be much moisture in the air, it becomes blue. Circumstances may arise, in a dry atmosphere, when it will be necessary, after the paper has been exposed for some time, to immerse it in distilled water before the coloration will be produced.

The chemical nature of the coloration consist in the oxidation of the potassium by the ozone; the iodine being set free, at once forms the blue iodide of starch. When paper is dry the color fades, owing to the evaporation of the iodine, but may be restored again by immersing it in water, as in this way a new quantity iodide of starch is formed.

In order to demonstrate the quantity of ozone in the atmosphere, Schœnbein has prepared a scale of 11 colors, ranging from 0 to 10, from white to a bluish purple, which he calls an *Ozonometer*. By comparing the discoloration undergone by the exposed paper, with this scale he obtains the *ozonic* capacity of the atmosphere at any time.

In the conduct of ozonometric observations "a slip of the prepared paper is suspended in a sheltered place where the air has free access, protected from the rays of the sun, and as far as possible from privies, (*lieux d'aisance*,) and other places where vapors are evolved, which are destructive of ozone." The slips are exposed for 12 hours, after which they are plunged in water. The amount of coloration is then determined by comparison with the ozonometer and is registered. It is recommended that two observations be made during the day; one between 6 A.M. and 6 P.M., and the other from 6 P.M. to 6 A.M.

In looking into the results obtained in a general meteorological way, it is found that ozone exists more abundantly in the upper strata of the air than at the surface of the earth, and that it is diminished when the atmospheric conditions favor the rapid loss of electricity.

In the discussion of the subject, Scoutetten finds it necessary to present a short resumé of our knowledge recently acquired on the subject of atmospheric electricity. We shall follow his course closely, as we know no way of giving an adequate idea of this most important contribution to medicine, better than abstracting from, or reproducing the author's ideas.

The *sources* of atmospheric electricity were announced as *two*, by Mons. Pouillet, in 1825, *vegetation* and *evaporation*, to which may be added *chemical action*. In the act of *vegetation*, electricity is so rapidly manifested, that in one of Pouillet's experiments there was disengaged from a surface of 100 square metres, covered with full vegetation, more positive electricity than would have been required to charge a powerful battery. Now, add to the large amount of electricity given off by vegetation over the surface of the globe, that which is furnished by animals, and the amount thus proceeding from the organic kingdom is enormous. *Evaporation* is not as productive in electricity as Pouillet imagined. Indeed, distilled water exposed to the air will not produce electricity in evaporation; but when water separates from some heterogeneous element, with which it has been chemically united, then electricity is produced. This is the case when water evaporates from the earth. Friction of the air over the surface of water, and that of the latter in its movements, are abundant sources of electricity. But chemical action is the most abundant source. Every composition or decomposition illustrates the truth of this statement.

The electrical condition of the atmosphere is subject to continual oscillations. At the rising of the sun it is feeble, but it increases as the sun rises, and as the vapors thicken in the lower strata of the at-

mosphere. This period of accumulation of tension goes on in summer until 6 or 7 A.M.; in spring and autumn, until 8 or 9 A.M.; and in winter, till 10 or 12 A.M. After the *maximum* has been attained at these hours, the electricity begins to decline, at first rapidly and afterwards more slowly; the visible vapors disappear and distant objects seem to approach spectators. Towards 2 P. M. atmospheric electricity is very feeble, scarcely greater than at the rising of the sun. Its diminution is progressive until the *minimum* is reached, in summer at about 4, 5 or 6 o'clock, P.M., in winter at 3 P.M. This *minimum* continues longer than the maximum. As the sun approaches the horizon, the electricity increases again until a *second* maximum is attained at an hour and a half or two hours after the setting of the sun. After this it decreases until morning. All these facts, which Kæmtz has given, agree with direct experiments, which demonstrates, that "*atmospheric air submitted either to a continuous invisible or electric current, or to a succession of sparks, furnishes ozone.*"

Quetelet states that *atmospheric electricity increases in every place, not affected by neighboring bodies, in proportion to its height.*

Whenever storms are experienced, we have also much electrical excitation. These are often accompanied by an odor, somewhat sulphurous in character, affecting the respiration unpleasantly. This is directly due to ozone in the atmosphere. Buchwalder, the Swiss Engineer, who experienced a terrible storm on the summit of the Senlis, when a servant was killed by his side, by lightning, recognized the peculiar odor as the same, with that which greeted his nostrils on entering the laboratory of Schœnbein, while the latter was experimenting with ozone. There can be no doubt as to the production of this substance in the atmosphere when great electrical excitement exists, and its oxidizing power enables us to understand why nitric acid is formed, during such storms, out of the two elements which had been mechanically commingled in the air. That electricity would produce nitric acid by its action on the air, was demonstrated by Cavendish; but here we have the explanation. The statement of Cavendish was the mere narration of a fact, without an attempt at an explanation.

The study of the amount of electricity in the atmosphere becomes a very important subject. Its laws have not yet been determined. By means of continual ozonometric observations, we shall amass such facts as may aid in their determination. Such observations are being made at various points in Europe—at Basle, Berne, Nancy, Versailles, and Amiens, in France; at Constantinople, Athens, Algiers, Italy, and in various parts of Germany and Austria. Several observers in

the United States and Canada are noticing the ozonic condition of the atmosphere. In the course of a few years, the mass of material collected will be exceedingly valuable for the preparation of laws that shall embrace all apparent contradictions of the weather. Already we have learned that "the rôle played by ozone can no longer be undervalued in a host of phenomena where its action had not been suspected, and will most likely increase when we shall better understand its action on telluric miasms and its connection with certain epidemics."

Scoutetten, by a series of experiments performed simultaneously at various heights in the cathedral of Metz, established the law of the increase of ozone in proportion with the height, just as Quetelet asserted was the case with electricity. This proportion, however, does not seem, as yet, to be embraced positively by any special law. The same result was obtained by Decharmes, at Amiens. Ozone does not manifest itself in populous cities, save in exceptional cases, near the ground, although it is found at the top of monuments. On the top of a mountain it is sufficient to elevate the ozonometric slips only 3 or 4 metres from the surface in order to obtain the same effect which from 80 to 100 metres of elevation will produce in a city. Along the side of a mountain the reactions are affected by local influences, and this fact may have intimate relations with the development of cretinism so frequent in the Swiss valleys, which, however, disappear, as Saussure determined, at an elevation of 1,000 metres. Above running or stagnant water, as much ozone may be detected as is in the upper strata of the atmosphere, and sometimes more.

But does ozone obey the same laws as electricity with reference to the diurnal *maxima* and *minima*? The facts thus far reported seem to indicate that the same laws do not preside over the oscillations of the two. Electricity is stronger in the day than at night. But ozone, on the contrary, is more frequently present in large quantities at night, although certain meteorological phenomena may affect this law so that a large quantity will be detected in day. Winds passing from north to southeast, storms, and the fall of snow will produce this effect. Its variations are not regular, nor is their course absolute. These are dependant upon the chemical conditions which favor or oppose its formation.

Ozone does not obey the laws of atmospheric electricity as regards the yearly determinations. Scoutetten carefully examines the conclusions of others who had asserted an exact harmony of laws between the two, and shows that the value of their conclusions was vitiated by a preconceived notion, in accordance with which they read the results of their experiments.

The fact that crowded cities with their animal emanations prevent the formation, is clearly shown in the experiments in Metz. Scouetten experimented for six months—from October, 1855, to April, 1856, on test paper, furnished from the manufactory of Schœnbein, in the street Tête d'Or, of Metz. This street is narrow, with a sewer at the end. The observations were made 15 metres from the ground, and 25 metres from the sewer. During these six months, the ozonometric paper was only colored four times; first, when there was a west wind and slight rain, on October 2nd; second, on November 7, north wind and fog; third, on December 25, north wind and rain; fourth, December 27, south wind and cloudy sky. During the same time, however, experiments made at the window of his apartments, with southern exposure, above a garden and 10 metres from the ground, almost constantly furnished ozonic reactions more or less strong. The same result attended experiments performed at the hospital, an isolated building, 20 metres from the river. Similar results were obtained by experimenters at Königsberg.

One of the most interesting facts connected with ozone is its rapid development near the ground, when the latter is covered with vegetation. An ozonometric slip suspended in a bell glass covering vegetables in full growth, in less than a hour will show very sensibly the usual reaction. The compost and manure which is employed on the soil may retard or even destroy the action of ozone on the iodureted starch paper. But at times, even when the ammoniacal fumes given off were considerable, the strips were colored rapidly and deeply. This occurred on April 27, 1856, but the next morning the same strips which had been left suspended in the same place had resumed their white color. This singular phenomenon is, however, of easy explanation. In consequence of a storm, ozone may become so abundant that it falls, in some way, from the upper portions of the atmosphere down upon the ground, and then contending advantageously with the miasmatic material, it may color the paper; but as soon as the quantity of ozone diminishes, then the ammoniacal fumes react in turn on the iodide of starch and completely decolorize it.

The facts being ascertained concerning the conditions affecting the presence or absence of ozone in the open air, we are prepared to examine into those with regard to the air in rooms. In each one of the halls of the Military Hospital at Metz, ozonoscopic slips of paper were suspended from 24 to 48 hours, and even longer, without the slightest discoloration; while slips of the same paper suspended outside the windows furnished 7, 8, and even 10 degrees of the ozonome-

tric scale. The surgical ward, situated on the ground floor, with an eastern exposure, containing 800 cubic metres of air, and occupied by only 18 or 20 patients, was next tried. The windows were left open for an hour in the morning and evening, and the temperature was not allowed to exceed 68° F. There was no indication of insalubrity about it—no disagreeable odor. The ozonoscopic paper, however, did not detect an atom of ozone. The same result ensued in employing the test in the fever and venereal wards. The same want of action was shown in Scoutetten's own chamber, which was perfectly ventilated, and even supplied with four windows and three doors.

Dr. Berigny obtained similar results at the hospital of Versailles: the ozonoscopic slips were suspended in the surgical, fever and venereal wards, the windows being left open all the day, and five days' exposure did not result in the slightest trace of ozone. These, and a number of other observations lead to the conclusion that "great centres of population are unfavorable to the formation of ozone."

But all the facts which have thus been obtained, force us to investigate the exact nature of the sources of ozone, or what is the precise character of the bond which unites all the phenomena mentioned in the first portion of this article. It has been shown that ozone is formed by the electrization of oxygen in its escape from water—of that which has been secreted by plants—of that disengaged in chemical actions, and by electric phenomena reacting on the oxygen of the atmospheric air. By a series of ingenious and instructive experiments, Scoutetten has established all these sources of ozone. "From such an assemblage of facts, the proof is obtained, that nature possesses abundant sources of ozone, existing on the surface of the globe as well as in the elevated regions of the atmosphere; and that there is established a perpetual series of ascending and descending currents, exercising a powerful influence upon the production of great electric phenomena, and upon the acts of vegetable and animal life. The discovery of these sources is an event which should throw new light upon the physiology of animals and vegetables; upon the atomic composition of bodies, and demonstrate that a bond of connection, unnoticed before, unites by close cords all substances on the globe."

Physiological Researches.—Having consumed so much space in tracing the history and giving the facts with reference to the constitution and sources of ozone, we must now endeavor to present the value, as at present known, of all this knowledge to physiology and medicine. This portion of Scoutetten's treatise will be most interesting to our readers; and with the view of making it intelligible, we have given the

foregoing abstract. His physiological researches are comprised under three heads—the physiology of vegetables, animals, and that of the terrestrial globe.

Vegetable Physiology.—Most authors are agreed, that plants secrete oxygen during the night and carbonic acid during the day; that carbonic acid absorbed by the leaves is decomposed under vital action, the oxygen being exhaled and the carbon retained as a portion of the vegetable, and that nitrogenous matters form the active part of manures. Scoutetten's investigations into the composition and action of ozone, induced some doubts as to the justness of these conclusions. He arrives at the conclusion that vegetable physiology must be reconstructed, as it is no longer possible to admit that the carbonic acid which leaves or roots absorb is decomposed under the influence of vital action, or that *its* oxygen is exhaled and *its* carbon fixed. We are not prepared to endorse this conclusion, as the number of experiments is too small upon which it is based, although these seem to have been very fairly and carefully conducted. He thinks that he has demonstrated that plants cannot furnish ozone unless they derive oxygen from the water which holds it in solution, or from the atmospheric air; and says that when they cease to be in such a condition, all secretion of ozone ceases, which proves that when electrized oxygen is disengaged it cannot proceed from the decomposition of carbonic acid or water. This conclusion evidently arises from the adoption of an unproved premise. The major proposition, in his syllogism, lacks proof. The whole syllogism would run thus: Oxygen is *only* given off from plants in the form of ozone; no ozone is produced when plants are placed in distilled water, or in a vacuum; *therefore* no oxygen is given off. The major is certainly not yet so satisfactorily ascertained that it can be assumed as true, and hence the conclusion is not reliable.

With reference to the statement that all physiologists consider nitrogen as the active portion of manures, we think Liebig and his disciples must be considered as having already brought serious objections to such a conclusion. Liebig says,* “that ammoniacal salts *alone*, have no effect; that, in order to be efficacious, they must be accompanied by the mineral constituents, and that the effect is then proportioned to the supply—not of ammonia, but of the mineral substances.” Scoutetten shows that it is surprising how small a quantity of nitrogen is furnished by manures as compared with the importance of its rôle in nature. Boussingault, in his analysis of the dung of the

* Principles of Ag. Chemistry with reference to late researches made in England, 42.

farm-yard, found in that which was dried at 230° F., only 2 per cent. of nitrogen; and in the same combined with the ordinary amount of moisture, but 0.41 per cent. Horse-dung contains 2.7 per cent. when dry; that of the cow, 2.6; and that of the hog, 3.4 per cent. of nitrogen; while these contain respectively, 38.6, 39.8, and 48.4 per cent. of carbon. The assertion that nitrogen acts as a ferment, and that its action on plants may be very different from its action on animals, is hypothetic. But what is the value of the large percentage of carbon? *It* must have an important rôle to play. Carbon in *the animal* is burned to produce heat, as Liebig and Dumas have long since shown. But heat is produced by the vitality of plants, as has been demonstrated by Van Beck and Dutrochet, with the aid of Becquerel's delicate thermo-electric needles—and this is considerable at the time of fecundation, sometimes greater than that of animals with active circulation of the blood. "An elevation of 9° C. has been detected in the spadix of *Arum italicum*, and in the spadix of *Colocasia odorata* the enormous temperature of 129° F. has been noticed, September 5, 1838, when the surrounding atmosphere was only 79° F. Is not this elevation of temperature to be explained" by a species of combustion? Is not calorification in plants, or in animals, an act of vital chemistry? Is not the period of fecundation in plants similar to that of rutting in the animal when a febrile excitation, as it were, in the organs of generation augments the natural heat considerably?

The amount of moisture transpired by vegetables is very great, is indispensable for the formation of ozone out of the oxygen of the water contained in the plant. The evaporation of this water removes some of the deeper abundant caloric, thus preserves the plant, even under great extremes of solar heat, at its normal temperature, which is *generally* below that of the surrounding atmosphere. Is this reduction of temperature as a general thing the result of the decomposition of carbonic acid or of water?

Scoutetten's theory on this subject is as follows: the water exhaled from the leaves is principally obtained from the ground, and contains a large quantity of air with a larger proportion of oxygen than atmospheric air. The absorption of this water by the roots, creates a vacuum, owing to which gases and liquids are attracted towards the radicles from the earth and afterwards absorbed, introducing thus various saline substances into the plant. Ozone, secreted by the leaves, is retaken by them and the roots through absorption—thence it enters into the vessels, and finding there mingled in the sap nutrient substances rich in carbon, it burns the latter, developing heat and form-

ing carbonic acid which is expelled during the night. Thus inspiration and expiration are the same with the vegetable as the animal. The carbonic acid given off at night, falls from its natural sp. gr., to the earth, penetrates the soil, is dissolved in the water, and enters the vessels of the vegetable; here, under vital influence, it abandons its oxygen, and deposits the carbon for the development of the body of the plant. "Let there be added to these acts, the introduction of some salt, the assimilation of a part of the absorbed water, the decomposition of another portion, which furnishes the hydrogen so indispensable to the vegetable, in quantity larger than that which is necessary for the formation of water, and finally the excretions whose quantity varies with the temperature and seasons, and thus we account for the elements that analytical chemistry detects in vegetable composition." Plants thus make the very atmosphere, and the carbonic acid which they require for their own nutrition. All this may be compared to the digestive process in the ruminantia. The alimentary material is introduced in the first stomach, submitted to a process, which renders it assimilable, then it leaves the paunch, ascends to the mouth, undergoes a second trituration, descends to the second stomach, where it is digested and the reparative juices are removed.

Should this theory be true, then, plants exhale by day, not oxygen, but ozone, which is furnished from the water they possess, and not through the decomposition of carbonic acid. Nitrogen plays a second part as a manure, and carbon takes a first rank. Water charged with carbonic acid hence becomes a most useful agent in the growth of plants. The most favorable circumstances for the growth of vegetables are those which will furnish ozone as the stimulant, and carbonic acid as the nutriment.

Animal Physiology.—What is the reason that country air is more salubrious than that which is contained in cities? Can we account for it on the supposition that plants secrete more oxygen, and furnish the same in large quantities? But analysis has shown that the proportion of oxygen is not greater in the one case than the other; and it has been proven that the mere addition of oxygen will not destroy the odor of putrefying bodies. Indeed, meat will putrefy more rapidly in *pure* oxygen than in the open air. It is the ozone in the country which acts as the purifier of the air, as the following experiments must necessarily establish. Meat that was in a putrescent state, being plunged in a flask containing ozone, was quickly disinfected; horse-dung, which gave off a powerful ammoniacal odor, when plunged into ozone lost this odor; water from a maceration tub, in the amphi-

theatre of the Military Hospital, at Metz, was agitated in a flask with ozone, and made inodorous; two piles of horse-dung were placed in one of the empty wards which had the capacity of 1,100 cubic metres, and were allowed to remain for several days, until the room was thoroughly infected with the ammoniacal odor; they were then removed, and the ozone contained in 4 bottles, each containing from 6 to 8 litres, was admitted into the room, when the odor instantly disappeared. Ozone is thus shown to be a great purifier of the air from miasmatic materials, and it renders the surface of the earth habitable, although there is incessant decomposition of organic material. But as ozone is an energetic excitant of the animal system, its accumulation would be very detrimental. This is prevented by the law "*that oxidizable miasmatic material is destroyed by ozone, while in their turn they destroy it.*"

Ozone, when present in the air in large quantity, say one two-thousandths, rapidly produces hyper-excitation of the respiratory organs, resulting in great trouble in the lungs, and throughout the whole organism; when the proportion is less, a spasmodic state of the bronchia and thoracic muscles are produced, and later, its action being continuous, coryza, intense bronchitis and pneumonia. That, in small dose, it is a healthy stimulant, the effect of country and town air incontestibly shows. When the equilibrium is destroyed which exists between it and the miasmatic material that decomposing vegetables produce, as is the case during winter, when the air is pure and the earth frozen, then it becomes a cause of danger and disease.

Physiology of the Terrestrial Globe.—Under this head the author considers the subject of meteorology, which, he admits, up to this time has consisted more of facts than laws, although he thinks the discovery of ozone has paved the way for the formation of the latter. It would be interesting to follow him in his explanation of storms, and other meteorological phenomena, but we are admonished, by the limited space at our command, that we must hasten to the last and most important portion of this valuable treatise.

Medical Researches.—If ozone is such a powerful actor, as has been mentioned, on the animal and vegetable organisms, it must, in some way, be connected, either by presence or absence, with the formation of disease. Are diseases ever accompanied by a diminution or absence of ozone? When Schœnbein announced the peculiar destructive action of ozone on miasmatic materials, it was at once supposed that the absence of this article from the atmosphere constituted the main cause for the virulence of cholera, and its presence was claimed as the prop-

er antidote. Hunt, of England, announced that he had found the air devoid of ozone during an epidemic visitation of cholera. The Medical Society of Koenigsberg appointed a Commissioner to make ozonometric observations for 12 months in that city and in its environs, and to prepare a tabular statement of these, along with one of the acute diseases prevalent contemporaneous with these observations. Their observations commenced with June 1st, 1852, and ended May 31st, 1853, during which time 6,251 cases of acute disease were recorded. The annexed table contains the results of this Commission. Our readers will be able from it to judge of the correctness or incorrectness of the deductions made from it.

Table indicating the manifestations of atmospheric Ozone and the prevailing diseases.

	June.	July.	August.	Sept.	October.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.
Maximum of Ozone.....	10.1	8.0	10.5	13.1	14.1	14.5	15.6	12.9	14.9	18.3	14.5	11.9
Minimum of Ozone.....	1.6	2.0	2.3	2.1	2.3	0.1	2.0	3.1	7.6	7.2	6.3	3.8
Mean	5.5	4.8	5.2	7.1	8.2	7.5	9.2	8.8	10.9	11.2	10.8	8.1
Number of Cases observed.....	408	358	591	993	752	797	603	465	451	310	340	183
Percentage of different diseases.....												
Diseases of Chest and Throat.....	34.8	27.3	9.9	10.3	19.2	27.9	28.5	37.8	37.0	25.1	24.1	24.5
Measles	0.2	1.6	4.0	7.0	18.3	33.8	16.7	4.0	0.4	0.3	0.5	1.0
Typhus and Gastric Fever.....	13.2	20.9	30.1	13.9	9.3	7.2	10.9	9.8	9.0	13.8	8.8	8.7
Intermittent Fever.....	26.4	16.2	25.5	16.5	9.9	7.2	7.2	8.8	15.5	30.6	36.4	44.2
Diarrhoea	10.2	17.8	17.7	22.2	14.7	9.0	9.4	7.7	6.6	5.1	4.7	4.3
Cholera.....	.....	.....	0.3	20.7	15.8	2.3	.....	.....	.....	.....	.....	.....
Other diseases.....	14.8	15.7	12.0	9.1	12.3	12.3	26.8	31.7	30.5	24.5	25.3	16.7

The Koenigsberg physicians concluded from these results that there was no positive relation between any particular disease and the ozonic condition of the atmosphere. In 1854, the Vienna physicians came to the same conclusions as their brethren of Koenigsberg. On the other hand, however, Boeckel, of Strasburg, showed that there was an intimate relation between the development of cholera in 1854-55, in that city, and the diminution or disappearance of ozone. In July of the former year, the cholera was very fatal, but little ozone was detectable in the atmosphere. On the 17th, when there was total deficiency of this substance, the disease was especially violent. This deficiency was not only in the air of the city, but in that of the adjoining country. During August, the cholera was particularly violent, and the ozonometric indicator was zero. On the 15th of September, indications of ozone began to make their appearance, and the cholera sensibly diminished. When the former became very marked, then coryza, bronchitis, and pneumonia became common. In the month of

June, 1855, during the first four days, three nights were, according to the ozonometer, zero, and the cases of cholera which he saw, broke out between midnight and 6 A. M. Boeckel concludes that "the want of ozone constituted the predisposing cause, while the contagious miasma produced the disease, which was then further propagated." Drs. Robert and Conraux, of Newdorf, near Strasburg, have also noticed this same apparent relation between a want of ozone in the atmosphere and the raging of cholera. Simonin, Senr., noticed such a relation at Nancy, in 1854, but not in 1855. Wolf, the Director of the Observatory at Berne, from an examination of the official list of deaths at Aarau, concludes that cholera is, at least, externally *favoured* by the diminution of ozone.

How shall we account for these differences? Scoutetten thinks the question is, to a certain extent, *sub lite*, but that the differences may be accounted for by the imperfect mode in which the ozonometer was employed; the experiments were not performed in accordance with a definite plan, and the peculiar conditions necessary for exact ozonometric determinations were not then as well understood as now. It is necessary that experiments should be made *de novo*. These should be performed at least 30 metres (about 33 feet) above the ground, so as to be out of the range of local sources, favoring either the formation of gases that are destructive to ozone, or its own formation.

Are there any diseases which arise from an excess of ozone? The physicians of Basle agree with Schœnbein, that there is a direct relation between the production of catarrhal affections and a super-abundance of ozone. Each exacerbation of affections of the organs of the chest correspond with an increase of ozone. Dr. Spengler noticed the same result during an epidemic of Grippe, at Roggendorf, Mecklenburg. Clemens, of Frankfort, who has charge of the workmen at a Naphthaline factory, where no ozone has ever been detected, has only had four cases during three years of catarrhal affection to treat among 30 workmen, notwithstanding their constant exposure to circumstances which are calculated to generate such affections. His conclusions coincide with those of Scoutetten.

Taking all things into consideration, we must conclude that the ozonic portion of the Koenigsberg tables are unreliable. They contradict results obtained by careful observers, thoroughly informed on the subject. If Scoutetten's views are correct, then ozone plays a very important rôle in our climate.

Can ozone be employed as a therapeutic agent? As it is an active stimulant to vitality in animals and plants, may it not be useful in all

cases where the normal combustion resulting from the inspired air is incompletely affected, as in chlorosis, scrofula, and anemic diseases generally? We are not prepared to give a negative to these questions. As yet, we have no means of graduating the amount of ozone which we could throw into the air of rooms occupied by patients laboring under those diseases; hence, it would be an uncertain agent. A surplusage would produce injury. The time may come when this agent will prove a most efficient article for administration by inhalation. For the present, Scoutetten proposes that solutions of ozone in water be employed as a therapeutic agent. This oxygenated water, which must not be confounded with the poisonous binoxide of hydrogen of Thenard, can be prepared by bringing perfectly pure water in contact with compressed oxygen gas. In this way, as much as 6.5 per cent. of oxygen may be dissolved by water. Such water has an agreeable taste, is less effervescent than carbonic acid water, but preserves its gas better. When taken into the system, it is an efficacious means of exciting vitality with lymphatic and chlorotic persons, and withal, those who experience the destructive effects of incomplete hematosi. It facilitates the functions of the stomach, and seems to favor the secretion of urine.

Schœnbein has introduced ozone associated with *ol. terebinthinæ* into therapeutic use. The latter oil will absorb a large quantity of oxygen, producing a substance of great oxidizing power. By exposing bottles of white glass half filled with *ol. terebinthinæ* to the action of sunlight, an oil charged with oxygen is obtained, which resembles *ol. menthæ pip.* in odor and taste; and, when placed on the tongue, produces a piquant taste, followed by a sensation of coolness.

This ozonized oil of turpentine has been found particularly useful in chronic catarrh of the urinary passages, in incontinency of the urine, in hematuria, in chronic sciatica, gout and rheumatism.

From this abstract of Scoutetten's book—the first complete collection, in a scientific shape, of all that is known on a subject both new and interesting—the reader can perceive that, although much may be hypothetic and as yet unsupported by facts, and more may prove fallacious, still the amount of valuable information contained in it is very great. With new experiments and more careful observations, we may be able to obtain results that shall justify his expectation as to the necessity of reconstructing our received systems of vegetable physiology. Organic chemistry is, at best, but a collection of facts which have been accumulated from all quarters, and on which theories illim-

itable have been constructed. The greater the amount of facts aggregated, the greater the facility for forming a correct and stable theory. We are confident that such a theory will be simple and intelligible to the youthful student as well as to the veteran chemist. L. H. S.

The Transactions of the American Medical Association. Vol. X. Philadelphia: 1857.

We had partially prepared a careful review of some of the papers contained in this volume, for the December number of the MONTHLY. The closing labors of the year, and the large amount of matter which demanded a place in our pages, prevented us from noticing it at that time; and we are still embarrassed by the same wealth of material, so that we shall have to forego the insertion of any lengthened notice.

The volume is smaller than several of its predecessors, but the papers which comprise it will favorably compare with those which have heretofore been yearly placed upon our table. That portion of it devoted to the proceedings of the Association, commences with the address of the President, *Dr. Z. Pitcher, of Detroit*. In this address a glance is taken "of the condition of the profession at the time this organization sprung out of the antecedent chaos; the cause or causes of that condition; whether inherent or incurable, or whether arising from intrinsic circumstances which may be remedied; and whether this remedy is to be found in public authority, or sought for in associated professional influence."

This is followed by a "*Report on the Medical Topography and Epidemics of Maryland*," by *Drs. P. Wroth, A. M. White, and E. G. Waters*. One of the reporters, in discussing the prevalence of Scarlet Fever, remarks, on the use of belladonna as a prophylactic, that "he is inclined to the belief that it is not entitled to its reputation as a preventive of this disease." Of the medical treatment of scarlet fever he has nothing new to offer; but he makes an important remark, showing the tendency, in all sections of the country, to that conservative form of treatment, the expectant mode; for, in "its mildest forms," he says, "good nursing is better than medicine." So, too, in the treatment of measles, he remarks, that "non-interference is the best policy, as the disease always has a tendency towards recovery."

We must omit some extended remarks we had prepared on the next paper, entitled a "*Report on Infant Mortality in Large Cities, the sour-*

ces of its increase, and measures for its diminution," by D. Meredith Reese, M.D., LL.D., &c. Doubtless, the mortality among infants is alarmingly large, and requires energetic and speedy action towards the adoption of such measures as will check the causes which tend to swell these weekly bills of mortality in our large cities. We believe, however, that the means suggested in this paper are, for the most part, utopian; for how are we, for instance, to enforce celibacy by statute upon "all consumptive, scrofulous, scorbutic, gouty, insane, intemperate, and especially syphilitic individuals, of either sex?" Would it not require more than autocratic power to establish such a law, and more than human ken to discern all the subtle influences, "hereditary or transmissible, which affect the offspring, or are fatal to infantile life?"

Still this paper deserves especial attention, and we hope that some of the suggestions of the author will meet with such action upon the part of the profession that the majesty of the law will come to its aid, to bring about such sanitary and moral changes that the statistics of infant mortality will not present so lamentable a show.

Following this is a *Report by Alexander J. Semmes, "On the Medico-Legal Duties of Coroners."* The view it takes of the position of medical men towards the State as experts, is the only one that can be taken with honor to the profession. They should be recompensed amply for their services and information, gained, as it is, by much toil, and frequently no little danger, and this paper should be commended for the proper view it takes of this matter.

The next paper is a "*Report upon the Topography and Epidemic Diseases of the State of Georgia,*" by John F. Posey, M.D., of Savannah; which is followed by a "*Report on the use of Cinchonia in Malarious Diseases,*" by F. Hinkle, M.D.; by a "*Report on the Blending and Conversion of Types in Fever,*" by C.G. Pease, M.D., of Janesville, Wisconsin. We should like to speak particularly of this paper, which is more suggestive than argumentative. Our intention, however, is merely to indicate the titles of the different papers in this volume, and we can therefore only refer our readers, who are interested in this subject, to a careful reading of the facts brought forward in this paper.

Next is a "*Report on a New Principle of Diagnosis in Dislocations of the Shoulder Joint,*" by L. A. Dugas, M.D; a "*Report on the Fauna and Medical Topography of Washington Territory,*" by George Suckley, M.D., U.S.A.; a "*Report on the Medical Flora of Washington Territory,*" by J.G. Cooper, M.D.; a "*Report on Deformities after Fractures,*" by Frank H. Hamilton, M.D.; and a "*Report on the Nervous System in Febrile Diseases,*" by Henry F. Campbell, M.D., of Georgia.

The two Prize Essays, which complete the volume, will be spoken of more at length at another time. The first in order, "*The Excito-Secretory System of Nerves, its Relations to Physiology and Pathology*," by Henry F. Campbell, M.D., has recently appeared, with other essays by the same author, in a separate volume, a notice of which is being prepared for our pages.

The other Prize Essay has for its title "*Experimental Researches relative to the Nutritive Value and Physiological Effects of Albumen, Starch, and Gum, when singly and exclusively used as Food*," by William A. Hammond, M.D., U.S.A.

Materia Medica, or Pharmacology and Therapeutics. By WILLIAM TULLY, M.D., formerly President and Professor of Theory and Practice in the Vermont Academy of Medicine, and Professor of Materia Medica and Therapeutics in Yale College. Edited by JEFFERSON CHURCH, M.D. Springfield, Mass., 2 vols. octavo, 750 pages each.

This new and highly important work should so extensively interest the profession, as to create for it a general and special demand.

The extensively scientific research, originalities, analytical acumen, demonstrating the diversified properties and powers of each medicinal agent, the new principles evolved for their administration as specific means to a specific end in the treatment of disease, the originality in the classification, the use of *interestingly significant* and *appropriate terms* for many of the unmeaning and stereotyped terms so long in vogue, all characterize this work as peculiarly unique, eminently scientific, independent and progressive, and as one of the most important that has ever honored America, or even Europe, within the present age.

It is a work destined to essentially and desiredly modify, if not to revolutionize, the views and practice of the profession. We feel assured that medical bigotry, prejudice and ignorance will suffer in the same ratio as the profession avails itself of these interesting volumes and gives them a critical reading.

This great work has been published at an embarrassing pecuniary loss, by a devoted lover of a scientific profession, whose acquaintance with the medical and literary excellences and experience of Dr. Tully, has induced him for the benefit of the profession to make the sacrifice.

It is what should be reasonably expected from a liberal profession, that a sufficiently liberal patronage shall be extended to it, to secure for it generally a dispassionate and thorough perusal, in which case

we feel confident that it will be regarded as a rich treasure for reference, if it should not be endorsed entirely.

Dr. E. D. Hudson, at 378 Broadway, N. Y., will receive subscriptions, and deliver the work at his office. *

Braithwaite's Retrospect of Practical Medicine and Surgery. Part XXXVI., American Edition. New York: Stringer & Townsend. 1858.

We are not surprised that this half-yearly Journal of the medical sciences is so general a favorite. Its pages are so full of the prominent discoveries and improvements in medicine and surgery, and it has become so essential to every physician, that the simple announcement of its appearance from the press is sufficient. The present number abounds in abstracts from practical articles, and is enriched by a General Index of the last four parts, including the present one. A complete index to the whole series, up to the 34th Part, has recently been issued in a separate volume, making it still more valuable as a work of reference.

Half-Yearly Abstract of the Medical Sciences. By W. H. RANKING, M.D., and C. B. RADCLIFFE, M.D. No. 26, July to December, 1857. Philadelphia: Lindsay & Blakiston. 1858.

The great feature in this half-yearly journal, in addition to the numerous abstracts of papers found in American as well as European Journals, is the several reports appended to it. In these reports, under the distinctive heads of Medicine, Surgery and Physiology, lengthy papers and books are analyzed, and the profession by this means is kept well informed upon everything of real value that issues from the press.

SELECTIONS.

Remarks upon the Treatment of Acute Internal Inflammations. By R. B. TODD, M.D., F.R.S., Physician to King's College Hospital.

[An Extract from a Clinical Lecture delivered in July, 1857.]

The case of Jane Cook, aged twenty-two, affords a good illustration of the phenomena of disease in its most acute form. She has had pericarditis in connection with rheumatic fever, some degree of endocarditis, and pneumonia with consolidation of about a fourth of the posterior part of each lung.

This patient is rapidly recovering, and, indeed, in an illness of unusual severity, she has had no serious drawback. On the 2nd of July rheumatic symptoms first showed themselves in pains and swelling of the lower joints. On the 6th of July a pericardial friction sound was first heard over the base of the heart, which soon became distinctly audible over its whole anterior surface. On the 7th bronchial breathing was heard at the posterior part of the lower third of the left lung, and on the 10th the right lung was similarly affected and to an equal extent. On the 12th vesicular breathing began to be audible in both lungs, and the bronchial breathing to disappear.

Now this patient was treated in the manner in which (with but slight modification) I have been for some years in the habit of dealing with similar internal inflammations, especially those of the lungs and heart. Although my practice in such cases is now pretty well known, and I am proud to think is practised by very many of my pupils in various parts of this city and of the country, it may be useful if I take this opportunity of explaining to you the principles upon which it is based.

On admission, while yet it was uncertain how far the rheumatic symptoms would extend, she was treated with alkalies and mild saline purgatives. Bicarbonate of potass in doses of from twenty to thirty grains were given every four or six hours, and very soon opium was freely given, when the cardiac affection manifested itself. As much as one grain of opium was given every fourth hour. Care was taken to keep the bowels open by giving an aperient draught daily of sulphate and carbonate of magnesia. Counter irritation was employed over the situation of the inflamed lungs by means of stupes of flannel soaked in turpentine; these were applied twice or thrice a day, and the region of the heart was freely blistered.

A principal and very important part of the treatment to which, as most of you know, I pay very special attention is that which I may call the dietetic portion. The object of this is to support the vital powers of the patient and to promote general nutrition, during the time when those changes are taking place in the frame which tend to check or to alter the morbid process, and to convert it into a healing process.

When a patient suffers from pneumonia, the tendency is for the lung to become solid, then for pus to be generated, and at last for the pus-infiltrated lung-structure to be broken down and dissolved. Such are the changes when matters take an unfavorable course. On the other hand, recovery takes place, either through the non-completion of the solidifying process, or by the rapid removal, either through absorption, or a process of solution and discharge of the new material, which had made the lung solid.

It will scarcely be affirmed, even by the most ardent believer in the powers of the Therapeutic art, that any of the measures which are ordinarily within our reach, such as the administration of certain drugs, or the abstraction of blood, or the application of blisters, exercise a *direct* influence in effecting these changes. Save in the case of antidotes, which directly antagonize the proximate cause of the

morbid state, medicines promote the cure of acute disease by assisting and quickening some natural curative process. And he is the wisest practitioner, and will be the most successful therapist, who watches carefully the natural processes of cure—in other words, who studies the phenomena, both anatomical and physiological, which accompany them, and of which, indeed, they consist.

Let me, therefore, exhort you to look very carefully to this as a part of your clinical study. If you will be on the look-out, you may often meet with cases of acute disease which recover with little or no medical treatment, and you may observe and note the clinical phenomena which they exhibit.

Allow me to anticipate your observation on this point, and to point out what you may look for in cases of pneumonia, and what you will certainly find in almost every instance.

First, the hot, often burning skin, which is so generally present in the first stages of pneumonia, will be exchanged for one bedewed with moisture, generally to the extent of free sweating.

Secondly, along with this sweating process there will be one of increased flow of urine, and very often a free precipitate of brick-dust sediment, lithate of soda, more or less deeply colored.

Thirdly, not unfrequently expectoration becomes freer, the sputa are more easily discharged, they lose their characteristic reddish, rusty color, and often they become very profuse and even purulent. Now and then the purulent sputa are so abundant that it is difficult to imagine that they can have come from any other source than an abscess.

Fourthly, the chemical characters of the pneumonic sputa exhibit an interesting contrast with those of the urine. In the height of the inflammatory state, the sputa contain common salt (chloride of sodium) in abundance, and the urine is entirely devoid of it. As the inflammation becomes resolved the salt returns to the urine and leaves the sputa.

Lastly, while all these changes are going on, the physiological functions which have been disturbed by the local malady, gradually approach their normal state. The quickened breathing, the accelerated pulse, the unnatural general generation of heat gradually subside. As all these admit of being measured by numbers, you should tabulate them in your records of cases, and you will find on each succeeding day (under such circumstances as I am now referring to) the figure assignable to each function gradually become lower until you arrive at the normal.

Now is it not plain from all this that the process of resolution of pneumonia is a distinct natural process, affected by the various physical agencies which are concerned in the nutrition of the lung? A material which clogs the air cells and minute tubes is removed, chemical changes of the most marked and obvious kind accompany the deposition and the removal of this material, and certain functions of excretion become strikingly augmented, as if for the purpose of getting rid of some noxious matter out of the circulation. A more exact and minute analytic chemistry than we have at present will, at some

future time, beyond doubt, detect more minute changes in the blood, and determine the exact nature of the discharged matters.

One other remark I must make in connection with this subject. These acute internal inflammations are very often—I suspect always—connected with the undue prominence of some peculiar diathesis—the gouty or the rheumatic, for instance—sometimes the scrofulous. Of these diatheses the main characteristic is the generation of some peculiar morbid matter which, when accumulated in undue quantity in this or that organ, gives rise to inflammation in it. And the determination of the morbid matter to the lung, or the pleura, to a joint or a muscle, will often depend on the direct influence of cold, or of an unwonted amount of exercise, or of some mechanical injury. The evil is to be remedied by the diminution of the intensity of the diathesis. This is done naturally, and is to be imitated artificially, by the elimination of the morbid element through the channels of augmented excretions, such as the sweat, the urine, and the secretions of the alimentary canal.

You will perceive, then, that my argument may be thus summed up. Internal inflammations are cured, not by the ingesta administered, nor by the egesta promoted by the drugs of the physician, but by a natural process as distinct and definite as that process itself of abnormal nutrition to which we give the name of inflammation. What we may do by our interference may either aid, promote, and even accelerate this natural tendency to get well; or it may very seriously impair and retard, and even altogether stop, that salutary process.

If, then, this view of the nature of the means by which inflammation is resolved in internal organs be correct, it is not unreasonable to assume that a very depressed state of vital power is unfavorable to the healing process. Indeed, if you watch those cases in which nothing at all has been done, or in which nothing has been done to lower the vital powers, you will find that the mere inflammatory process itself, especially in an organ so important as the lung, depresses the strength of the patient each day more and more.—*Archives of Medicine*.

Hæmorrhage in Early Pregnancy Practically Considered. By J. HENRY BENNET, M.D., Physician-Accoucheur to the Royal Free Hospital.

Hæmorrhage during the early stages of pregnancy is generally, if not always, a source of anxiety and doubt both to the patient and to the medical attendant. Of anxiety, because it is the constant forerunner of abortion; of doubt, because its repeated appearance, simulating irregular menstruation, often throws a doubt on the reality of the pregnancy.

Hæmorrhage occurring under these circumstances is still too exclusively considered by accoucheurs in connection with diseased condition of the ovum and of its membranes. The important fact, that it is frequently the result of chronic inflammatory conditions of the body

and neck of the uterus and of the cervical canal—a fact to which I drew attention many years ago—is still generally ignored and overlooked; and yet the additional experience I have since acquired has completely confirmed the truth of the views I then brought forward.

Hæmorrhage may occur during early pregnancy, owing to the partial separation of the ovum from its uterine connections; owing to the existence of a blighted ovum or mole; or owing to the above-mentioned inflammatory conditions.

When the connection between the ovum and the uterus is modified, under the influence of the maternal, foetal, or accidental causes, which are generally recognized as the causes of abortion, hæmorrhage is the usual result. In a case of this kind, if the cervix uteri is brought into view, it is found quite healthy, merely presenting the size and color that pertain to the stage of pregnancy which the patient has reached. The blood is seen gently oozing from the orifice of the cervical canal. These are the cases in which rest and constitutional treatment alone are required, and often succeed, especially when the hæmorrhage has followed some accidental cause. As long as the foetus is alive, there is reason to hope that any mischief that may have occurred may be repaired, the hæmorrhage arrested, and the pregnancy saved. Moreover, as we cannot tell positively, at first, whether the foetus has died or not, it is our duty to continue our efforts to preserve it, until the violence of the hæmorrhage has destroyed all hope, or until the abortion has actually taken place.

The hæmorrhage which is occasioned by the conditions that lead to abortion is, generally speaking, either subdued, or it continues, notwithstanding treatment, until the abortion has occurred. It may be arrested, and then break out again and again, but this is the exception. When uterine hæmorrhage occurs irregularly in the early months of pregnancy, the cervix uteri being free from inflammatory lesions, stopping and returning repeatedly, without uterine contractions, it is generally occasioned by the presence in the uterus of a blighted ovum or mole; and, in some rare instances, by that of hydatids.

The foetal germ may die soon after conception, and become atrophied, absorbed, or lost, whilst the membranes and placenta may continue to grow, like moss on a wall, deriving nourishment from the inner surface of the uterus, and forming an indistinct fleshy vascular mass. It is to intra-uterine masses of this description, the true origin of which was long unknown, that the term mole has been given. Their presence in the uterus, and progressive development, sometimes for many months, gives rise to many, if not most, of the symptoms of pregnancy, and is attended, all but invariably, with repeated irregular hæmorrhage. Sometimes the hæmorrhage is constant; sometimes it is irregularly periodical, simulating morbid menstruation. When these symptoms are present, the state of the patient is necessarily one of doubt and uncertainty, until the mole is expelled. The morbid product to which the name of hydatids of the uterus has been given, is probably generated under the same circumstances, and its presence is attended with identically the same symptoms, viz., irregular, constantly recurring

hæmorrhage, and the more or less perfect reproduction of the ordinary signs of pregnancy.

The above are the generally recognized causes and forms of hæmorrhage during the early stage of pregnancy, and with them we may group chronic inflammation of the body of the uterus. The cause to which I wish specially to draw attention, viz., inflammatory lesions of the cervix uteri, although overlooked as yet by most accoucheurs, is most certainly the one which is by far the most frequently met with in practice, and the one also over which we have the greatest therapeutical control.

Inflammation and ulceration of the mucous membrane covering the cervix uteri, and lining the cervical canal, is now generally admitted to be a lesion of frequent occurrence in child-bearing women. Such being the case, and the presence of these morbid conditions, although a cause of sterility in some, not preventing pregnancy in many, the two conditions, pregnancy and inflammatory ulceration, must and do often exist. Whenever their co-existence takes place, occasional hæmorrhage, slight or severe, may be said to generally occur, and the more readily as all ulcerative lesions of the uterine neck assume in pregnancy a very irritable fungoid character. Thus hæmorrhage may occur spontaneously, or it may depend on accidental causes, such as over-exertion, marital intercourse, &c. It may be irregular or it may be periodical, simulating menstruation. In any case, its existence is not so much, in most instances, a danger as a relief to the congested and inflamed uterus. The real danger is the existence of the inflammatory disease of the uterine cervix, which causes the hæmorrhage, and unfits the uterus for the functions which it is performing. The pressing therapeutical indication is to subdue the uterine disease, to heal the ulcerated surfaces from which the blood so readily oozes, and thus to put an end to the danger which threatens the life of the fœtus.

It will be perceived that valuable rules may be deduced from what precedes, for our guidance in practice. If a healthy pregnant female is suddenly attacked with hæmorrhage in the early stages of her pregnancy, we are warranted in considering the hæmorrhage the forerunner of abortion, and we must treat it accordingly. The patient must be kept in the recumbent position, mineral acids and sedatives should be given internally, and laudanum injected per anum if there are uterine tormina or contractions presents. Of course no examination should be made, as it might prove an additional source of irritation. If, however, the treatment resorted to, at first successful, subsequently fails, the hæmorrhage again appearing; or if even on the first attack there are decided antecedents of uterine suffering in the history of the patient, a careful instrumental examination of the uterus and of its cervix should be made as soon as possible. If no inflammatory lesions are discovered, we may prepare for the doubts and uncertainties connected with blighted ova; but if, on the contrary, inflammatory lesions are recognized, they should be at once treated and removed. In the latter case, we may hope that the hæmorrhage merely proceeds

from the inflamed or ulcerated mucous surface, and that the integrity of the ovum and of its attachments to the uterus has not suffered. Generally speaking, in such cases, if the hæmorrhage has not been allowed to continue too long, the pregnancy is saved by the cure of the local disease. I may safely say that I have saved very many pregnancies by applying the above rules of practice, and that many children now alive and well owe their lives to the recognition of these important facts.

In some instances, where the cervix is diseased, inflamed, and ulcerated, and the blood is seen, on examination, to ooze from the ulcerative surface, the fœtus is dead, and the ovum partly detached, when the examination is made; or these accidents occur before the practitioner has had time to modify the cervical inflammation. In such cases, the treatment of the latter disease does not, of course, save the pregnancy. As, therefore, we never can be sure that the fœtus is still sound and alive, or will continue so, it is well to inform the patient and her friends, from the first, that all our efforts may be unavailing to save the existing pregnancy. Were this precaution not adopted, they might attribute the abortion to the very means used to prevent it.

It is worthy of remark, that cases of this description, in which chronic inflammatory thickening and hypertrophy of the cervix complicate the abortion, are those in which the hæmorrhage is the most severe, the most continuous, and the most intractable. The reason is very simple. The os uteri, thickened and hardened by disease, cannot open to allow the ovum to pass, so the latter is arrested *in transitu*, and the hæmorrhage continues, mechanically as it were, for days. I have repeatedly been sent for to cases of this kind, in which the patient, anæmic from loss of blood, was apparently at the last gasp, have found a morbid, rigid os, half open, and have been able with the speculum forceps to extract an ovum thus retained, thereby at once arresting the hæmorrhage. As pregnancy advances, the cervix, even when thus diseased, generally softens and yields.

Lastly, I may here repeat what I have elsewhere stated, that whenever I have been able to examine the uterus of a really pregnant woman, supposed to be menstruating during pregnancy, I have all but invariably found that there was more or less extensive inflammatory ulceration of the uterine neck. The so-called menstrual discharge was clearly, in these cases, merely an hæmorrhagic flux from the denuded cervical mucous membrane. It may, however, have occurred under the influence of the ovarian or menstrual molimen, which is no doubt still felt to a considerable extent by some females, during the early months of pregnancy.

This clinical fact offers another element of diagnosis in cases of controverted pregnancy. If a female who presumes herself, or is presumed by others, to be pregnant, notwithstanding the presence of a menstrual flux, is found on examination to be free from inflammatory and ulcerative lesions of the uterine neck, the presumption is that she is not pregnant. If she has such disease, it may be the source of the flux, and the presence of the hæmorrhage does not contra-indicate the pregnancy.—*Lancet*, January 30, 1858.

Case of Malarious Typhoid Fever. Reported by I. ROWELL, M.D.

Was called in haste to go some 35 miles distant in the country to visit a man sick with fever. The messenger, brother of the patient, expressed great anxiety for the latter, reiterating often, he did not believe we should find him alive.

On my arrival, I found his fears were too well founded. The patient lay pale and emaciated from two weeks' illness, under no treatment at all, or, what is usually worse, domestic treatment. He had a pulse of 140, so feeble as scarcely to be perceptible; a dry, brown tongue, cracked and fissured, sordes upon the teeth, involuntary discharges of a dirty, coffee-grounds appearance, involuntary passages of the water, urine highly colored, a tympanitic condition of the bowels, great gastric irritability, frequent vomiting, the stomach rejecting even a spoonful of water. On inquiry, I found that he lived in a highly malarious neighborhood, and that the stage of invasion of his disease was ushered in with a heavy chill, and for several days subsequent to the attack there was a marked periodicity attending his fever, and that the exacerbations occurred regularly, at the same time of the day. I decided at once that his disease was a remittent form of fever, which, by neglect, had run into a continued form of a typhoid character.

Treatment.—Quinine, it is unnecessary to state, is the sheet-anchor in such cases, but how could we exhibit it in order to get at its effects? The stomach rejected it immediately; it was tried by enema combined with anodynes, with like unsatisfactory results.

Relying with the fullest confidence on the efficiency of quinine, if I could get it into the system, as a last resort, I dissolved about half an ounce of that article in water acidulated with sulphuric acid, and applied cloths saturated in the solution to nearly the entire surface of the patient.

Very much to my surprise, he rapidly recovered. In twenty-four hours the urgent symptoms had nearly all disappeared; the pulse had increased in volume and diminished in frequency; sensibility, too, had returned; the irritability of the stomach and bowels had subsided; the subsultus no longer existed; those secretions which were before suppressed, reappeared; the tongue and skin were moist, and in place of the speechless, cadaverous, ghastly, idiotic mass of mechanically breathing human clay, we again had a rational, intelligent man. The subsequent treatment was tonic, alterative and diaphoretic.

The recovery was rapid without any untoward symptoms.

Query—Was it the endermic exhibition of the quinine that saved the patient?—*Pacific Med. and Surg. Journal.*

Value of a Young Lady's Teeth.

The Paris courts value a young lady's teeth at 8,000 francs. An English governess was recently knocked down by a carriage, and lost by the accident all her teeth. She brought on an action of damages, and the tribunal awarded that amount.

HOSPITAL REPORTS.

Clinical Records.

Report of a Case of Tetanus occurring in Bellevue Hospital under the care of Dr. Jas. R. Wood, Visiting Surgeon. By J. J. CAMPBELL, M.D., House Surgeon.

Rebecca H., aged 38, pretty good constitution, but of intemperate habits, was admitted into Bellevue Hospital, at 4 P. M., February 7th, 1858, with severe burns of both lower extremities, caused the evening before by getting her clothes on fire. When admitted, she was suffering a great deal of pain, and her stomach was so irritable that she could scarcely retain any of the nourishment and stimulants that were given her. Her pulse was frequent and feeble, and she had slept none the night previous. Stimulants and anodynes were given freely, and her limbs were ordered to be dressed with cotton soaked in equal parts of linseed oil and lime water.

Feb. 8th. Did not sleep any last night, although she had taken the eighth of a grain of morphine every hour since her admission; her stomach still remains irritable; her pulse continues frequent and weak, and her limbs feel easier. Sub-nitrate of bismuth, opium, and a small quantity of carbonate of ammonia, ordered in pills, to be given with the view of allaying the irritability of her stomach. Beef tea and rare boiled eggs directed to be taken in small quantities at a time. Stimulants and anodynes to be continued as before. This course of treatment was persevered in, but she did not improve much until February 11th, when she was able to retain all the nourishment that was given to her. Her pulse still remained frequent, although it was stronger than when she came into the hospital. She rested better at night, and continued doing well in every other respect from this time until the morning of February 15th, when she was attacked with the symptoms of trismus, that I first noticed by directing her to put out her tongue, which she could not do to any extent, as she could not separate her jaws more than three quarters of an inch. On inquiry, I ascertained that she had some stiffness in the muscles of the back of the neck. I then desired her to swallow a little beef tea, which she did with great difficulty and a feeling of choking. Morphine, in half-grain doses every two hours, was ordered to be given, and her allowance of stimulants increased.

At 11.30 A. M. she was seen by Dr. Wood, who directed that she should be put upon a stimulant, anodyne and anti-spasmodic course of treatment. Twenty ounces of brandy and a pint of madeira wine were

ordered to be given in the twenty-four hours. The morphine was given pretty freely by the mouth; but as she could not swallow as much of the stimulants as was directed, they had to be in part injected into the rectum with two ounces of lac assafoetida and one drachm of tincture of opium every two hours. She was also directed to be kept as quiet as possible. Her pulse at this time was 128, quick and moderately full, and her respiration a little more frequent than it had been for a few days past. There was not much increase in the severity of the symptoms up to 10 P. M. At 11 P. M. she commenced sleeping, and continued doing so until 2 A. M., after which she remained wakeful.

9 A. M., February 16—pulse 128, quick and moderately full; respiration 24; cannot separate her jaws more than one-third of an inch; has great difficulty in deglutition; muscles of the neck quite rigid; head drawn back, and does not appear to suffer much when undisturbed. She has had no spasms except of the muscles of the back of the neck. Same treatment continued.

6 P. M. With the exception of a little more difficulty in swallowing, is in much the same condition that she was this morning.

Feb. 17th, 9 A. M. Slumbered a little during the night; pulse 132, quick and weak; respiration 34; rigid spasm of all the muscles about the jaws and neck, and cannot drink from the feeding cup; and all the fluid she swallows has to be injected into her mouth with a small syringe. Her face assumes a livid hue during each attempt at deglutition. Has to lay on her side, owing to the strong contraction of the muscles on the back of her neck. Loud rales, produced by the air passing through the secretions in the mouth, can be heard while standing by her bedside. Her bowels moved during the night for the first time since the 14th. At 1.45 P. M., was seized with a convulsion that affected the whole body, but more especially the muscles of the back and neck. Well-marked opisthotonos remains. Her jaws are rigidly closed, and she cannot swallow anything. At 3.40 P. M., has had another general convulsion that lasted for about a minute. At 4.45 P. M., has had another convulsion like the two former. Pulse 120, and weak; respiration 45, and is perspiring quite freely. Chloroform was tried, and the muscles closing, the jaws relaxed a little. From this time until twenty minutes of six, when she died, she had a great many convulsions. Just as she was breathing her last, all her muscles became quite flaccid. During the two hours preceding her death, one ounce of the tincture of opium with very near a pint of brandy and wine were injected into her rectum. She remained rational until the last moment of her life.

Her burns looked healthy all the time.

Post mortem 39 hours after death. Slight rigor mortis. Some venous congestion of the vessels of the brain and spinal cord. About two ounces of serum escaped on opening into the dura mater of the brain and cord. No other condition noticed in these parts. The right side of the heart, especially the right auricle, was distended with black, clotted blood, while the left side contained but very little. This organ felt normal. No ulceration could be detected in either the stomach or duodenum. The colon contained a great deal of scybala. The bladder was empty and contracted.

A Case of Strangulated Femoral Hernia, occurring in Bellevue Hospital, in the service of Dr. Jas. R. Wood, Visiting Surgeon. Dr. J. J. Campbell, House Surgeon. Reported by J. M. FARRINGTON, M.D., Assistant Surgeon.

Matilda R., a widow, æt. 49 years, of good constitution, large size, and corpulent, was admitted in hospital on the evening of Feb. 1st, 1858.

She gave the following history of her condition previous to admission. On the morning of the 29th, as she sat low down to light a fire in her stove, she felt something yield in the region of the right groin, which caused her sudden and severe pain. She was put in bed and a physician sent for. He came, and ordered some medicinal enema, which was retained, and nausea and vomiting came on after its employment. This physician left her promising to call again soon, which he did not. On the following day another physician was called in, who informed her and her friends of the grave character of the accident, and as they had not the proper conveniences for the operation to be performed at her house, he advised them to have her taken to the hospital for the requisite operation. He ordered a medicinal enema, which like the former one was retained and followed by emesis. He also directed poultices to be applied over the tumor.

There had been no movement of the bowels since the accident occurred. She had vomited several times a dark bilious matter.

On admission, she exhibited little anxiety of countenance. Pulse 92 per minute, and apparently normal in character. There was a tumor in the right groin, about the size of a duck's egg. It was slightly tender to the touch, especially at its neck. It gave a dull sound on percussion, as though it was an epiplocele, but it had a hard smooth feeling as though it was an enterocele. She complained of some pain in

the right iliac region, but there was no abdominal tenderness, nor tympanitis. Taxis was ineffectually tried, after which she was put under the influence of chloroform to relax the part, and the taxis was again tried, but in vain. She was next placed in a warm bath for some 30 minutes, during which time the taxis was tried, but without success. A large enema of warm water (nearly three quarts,) was then given. This was immediately discharged from the bowels, carrying with it a small amount of scybalæ. Within one hour after this she had a copious fæcal stool, soon after which an enema of half a pint of tepid water containing four scruples of pulv. assafœtida was given, which was retained for a short time, when it passed off, carrying with it a small amount of fæcal-matter. She expressed herself as feeling much relieved by this free evacuation of the lower bowels. She passed her urine without difficulty.

At 8 P. M., ice was applied over the tumor, and kept on all night. The ice was tied in a piece of oiled silk, and then enveloped in a napkin and laid upon the tumor. It gave her marked relief from the pain. She was not inclined to sleep, and McMunn's Elixir of Opium was given in teaspoonful doses, every two hours until 3 A. M., (February 2nd,) when, as the insomnia continued, a teaspoonful of the anodyne was given every hour. 6.30 A. M., she vomited about 12 oz. of a dark green matter, which was the first that she had vomited since her admission. 7 A. M. There are no urgent symptoms; she appears to feel comfortable. 10.30 A. M. A consultation of the visiting surgeons was held, and all were united in the opinion that it was a case of strangulated femoral hernia, and that it demanded an operation. 1.30 A. M. She vomited about 14 oz. of a very dark green fluid. 2 P. M. The dissection of the tumor was made by Dr. Wood. As is the custom at this hospital when any important operation is to be performed, a notice was sent to each of the medical colleges immediately after the surgical consultation, and at the time of the operation there were present in the amphitheatre some 400 or 500 students and physicians, each of whom had a good opportunity of witnessing the dissection of the coverings of this hernia. Each of the layers were carefully demonstrated as the dissection was continued, until the hernial contents were exposed.

On cutting through the peritoneal layer, a slight amount of a dark-colored fluid escaped. The hernial contents consisted of a considerable mass of omentum enveloping completely a small knuckle of intestine. Hey's ligament, which was the seat of the stricture, was next divided. The intestine was of a dark mahogany color, but looked

somewhat brighter after the relief given to the circulation by division of the stricture. Adhesions were found about the neck of the sac, which were broken up by the finger; and as there was no fœtor, and the appearance of the intestine was favorable in color, it was deemed safe to return it into the abdomen, which was done. But the mass of omentum was so much constricted and adherent at its neck that it was not possible to reduce it with safety, and it was decided to ligature the mass close up to the femoral ring where it was quite narrow, and cut off the protruding portion. This was done, and the ligature was left hanging out of the external incision at the same time it held the divided end just outside of the ring. The external incision, which was I shaped, was closed by sutures and adhesive straps, excepting the most depending corner, which was left slightly open to permit the escape of any matter that might collect in the wound. Patient was under the influence of chloroform during the operation. 3 P. M. Pulse 88. Gave $\frac{1}{2}$ gr. of sulphate of morphia. 4.30 P. M. Gave $\frac{1}{8}$ gr. of morphia, and ordered $\frac{1}{4}$ of a grain to be given every hour until sleep was induced. 10.30 P. M. Has slept for the last two hours; pulse 100; she feels comfortable; pupils slightly contracted; semi-narcotized. February 3rd, 1 A. M. Pulse 88; respiration 8; pupils contracted; ordered the morphia to be discontinued. 7 A. M. She is comfortable; has slept most of the time since last note; pupils slightly contracted; pulse 104; very little pain on pressure over the abdomen or groin. There have been as yet no bad symptoms; everything given is retained. Her diet consists of egg, arrow root, and beef tea in small quantities. 9 A. M. Gave $\frac{1}{4}$ gr. of morphia, and ordered it to be repeated every hour. No marked tenderness over any part of the abdomen. 12 M. Abdomen slightly tympanitic and painful on percussion and pressure; countenance more anxious. Passed her urine at 7 A. M., but cannot pass it now; tongue dry. She looks decidedly worse; pulse 112. Morphia with tincture of veratrum viride was ordered.

As Dr. Wood had to be absent from the city a few days, Dr. Willard Parker, at Dr. Wood's request, took charge of the case. Dr. Parker saw her at 4 P. M. He directed xv. grs. of calomel with iii. grs. of opium to be given at once. She has passed her urine since last note. Tenderness less marked than it was. The wound was dressed at this time, its edges were in good coaptation, and there was but little oozing of matter from it. Leeches were ordered to be applied about the wound, but as the tenderness continued to diminish, they were not employed. Warm turpentine stupes were applied over the

abdomen while the tenderness and tympanitis were present. 5.30 P. M. She has no tenderness over any part of the abdomen, not excepting the right groin. The tympanitis has subsided. Pulse 105, and full. Skin and tongue moist. The tongue and fauces have been very dry, for which dryness she has had bits of ice to hold in her mouth. 8.30 P.M. Still very comfortable, no return of the pain or tenderness; has passed her urine. 10 P. M. She is in a deep sleep. Pulse 105; respiration 7; pupils contracted. Roused her and ordered the morphia to be discontinued. Feb. 4th, 8 A.M., has passed a comfortable night, tongue and skin moist, has taken no morphia during the night, has no marked tenderness over the abdomen, has vomited once this morning, the first since the operation. There is a slight amount of discharge from the incision. 12 M. Has vomited five times since last note; the matter ejected from the stomach is the beef tea, etc., which she has taken. Dirty looking pus in the wound. Tympanitis is present. Patient looks decidedly worse, drowsy, with depressed countenance. Ordered the morphia and veratrum viride continued. She took $\frac{1}{8}$ gr. morphia, and 5 gtt. of the tincture of veratrum every hour. 1 P.M. Her bowels moved in bed, of which she was scarcely conscious. The vomiting continues. 3 P.M. She was seen by Dr. Parker; as the tenderness had returned, and was most marked over the transverse colon, he directed a long blister to be placed over it, and ordered 3 grs. of opium, with 2 of calomel, every two hours. He also directed 3ss. of the following mixture to be given every two hours, to control the irritability of the stomach:

R.—Ether chloric, ʒss.
 Acid Hydrocyanici, gtt. xx.
 Aq. menthæ pip. ʒiiliss.

M.

8 P.M. She is sinking; looks cadaveric; pulse 105 and weak. Wine ordered to be given occasionally. She has not slept for several hours. 12 P.M. Pulse 120, weak and quick. Complains of cold, extremities are cold. Ordered warm blankets. She is vomiting and much depressed, eyes are sunken and dark areola around them. Says she feels bad, has some pain in abdomen. She continued to sink, and died at 10.30 A.M., Feb. 5th.

Autopsy 24 hours after death. There was some sloughing around the external incision, and the whole extent of the track through which the hernia had passed and the incision had been made, presented a dirty gray aspect. The portion of omentum to which the ligature was affixed was discolored and gangrenous for a very short distance from the ligature, but the latter had caused no extended inflammation.

There was evidence of a slight amount of peritonitis, as small patches of lymph could be seen at various points on the intestines. A knuckle of the ileum was found slightly adherent from recent inflammation, at the femoral ring, and it was at first supposed that this was the portion that had been incarcerated, but on searching upward in the umbilical region, slightly to the right of the mesial line, a portion of darkened intestine was noticed. Its appearance was very marked, and readily distinguishable from other portions of the small intestines. It was blackened, though not gangrenous, excepting at one point, which was probably the point that had been encircled by the stricture at the saphenous opening. It was a line extending about one-fourth of the distance around the intestine. This had softened so that on the slightest tension being made it parted. No extravasation of fæcal matter had occurred, as there was no perforation previous to the post mortem examination, when, in cautiously lifting the intestines, the softened portions parted. This knuckle of intestine which had formed the hernia was a portion of the ileum, and on the measurement was found to be nearly equi-distant from the pylorus and the ileo-cæcal valve.

EDITORIAL AND MISCELLANEOUS.

— With this number, it will be observed that another name has been placed upon the cover, as an addition to the editorial corps of the MONTHLY. The initials, L. H. S., are well known to all who have been familiar with the pages of this journal, as accompanying articles of great value and practical interest to the profession. It is therefore with great pleasure that we congratulate ourselves and our subscribers, in having succeeded in attaching to our journal the ready and able pen of the writer of those articles. Hereafter, Dr. Lewis H. Steiner, of Baltimore, Md., will devote himself with the other editors to the pleasant duty of making the MONTHLY still more acceptable to its readers.

— The Academy of Medicine held its regular meeting on Wednesday evening, February 2nd, Dr. Valentine Mott in the chair. After the minutes of the January meetings had been read and approved, Dr. Mott gave his valedictory address. In resigning the chair to his successor, Dr. Batchelder, he took occasion to dwell upon the increasing reputation and influence of the Academy, over which he had presided during the past year. He said that he held diplomas from most

European societies of a similar character, from Constantinople in the East to Dublin in the West, but of none was he prouder than of the one which he had from the New York Academy. Dr. M. urged the Fellows to continued exertions, and to unity of purpose, so as to make it in no degree an imitation or reflection of other institutions of a similar character; but that it should retain its individuality, and be second to none.

Dr. Mott then presented the constitution of the Academy to Dr. J. P. Batchelder, the President elect, and resigned the honors and the labors of the chair to his hands.

Dr. Batchelder said that he deemed it a happy circumstance that he was permitted to receive the constitution from one who was so distinguished, and whom he was glad to call his friend. As it was obligatory on him to address the Fellows upon this occasion, he should make a few remarks upon a subject which had never been discussed from that chair. The Doctor then proceeded to speak of the obligations, relations and duties of each individual Fellow of the Academy, and of the Academy to itself. He spoke of the labors of the past year, of the various papers which had been read, of the discussions which had been held, and of the earnestness with which some of the Sections of the Academy had entered upon their duties. He dwelt upon the necessity for an increase in the number of meetings, and urged the erection of a building for the especial use of the Academy. In contrasting the state of medical education in New York before the organization of the Academy and at the present time, Dr. B. spoke of the increased facilities in the way of clinical instruction at the colleges and the hospitals, and drew a happy augury of its effects upon the progress of the profession at large, and particularly of this city. He urged the Fellows to attend regularly, and to consider that when they signed the constitution they gave their bond to abide by its rules and to further its designs.

Dr. Vandervoort read a report from the Committee on Nominations, setting forth the difficulties frequently met with by the committee in getting satisfactory data in relation to the character and standing of nominees, but denying that they had ever recommended a nomination to the Academy without first carefully ascertaining, even with great trouble to themselves, the status of each person.

Dr. Warren read a report from the Committee on Medical Ethics. "A charge against a Fellow," sent to them, had been withdrawn, and the communication from a Medical Society of a neighboring city, referred to them by the Academy, had been carefully considered. The

committee desired instructions upon the question whether a charge against a Fellow, emanating from another society, could be entertained by the Academy. If not, then the committee would recommend that the communication be read before the Academy.

Dr. Downs read a report of the Section of Theory and Practice, recommending that the paper read by Dr. E. H. Parker, on the preservation of Vaccine Virus, and that read by Dr. J. McNulty, on Large Doses of Opium, be placed on file; also, that the paper read by Dr. Horace Green, on Lesions of the Epiglottis, be ordered to be printed.

Dr. E. H. Janes read a report from the Section on Materia Medica and Botany, concerning Thayer's Fluid Extracts.

An exceedingly interesting and valuable statistical paper upon Pro-lapsus of the Umbilical Cord, with a description of his treatment of it, viz., by placing the patient on her hands and knees, was read by Dr. T. G. Thomas.

Dr. J. W. Francis spoke of the paper in a very commendatory manner, and related some of his recollections of the early medical teachers of this city, and of their method of treating this complication of labor.

The reports of various other committees were then received, after which the report of the Committee on Ethics, before mentioned, was called up. A lively discussion ensued, and it was finally decided that the complaint could not be acted upon by the committee. The reading of the complaint to the Academy was made the order for the next regular meeting. This complaint, it is understood, is made by a Society in Philadelphia against Dr. Reese, of this city.

— The Medical Society of the State of New York held its annual session at Albany, on the second, third, and fourth days of February, about ninety delegates and permanent members being present. This Society is composed of delegates from the various County Societies, the Medical Colleges of the State, and the New York Academy of Medicine; the last mentioned being the only Society, besides the county associations, recognized by the law of the State, under which the State Society is organized. The President is elected for one year, and this year the honor belonged to Dr. Augustus Willard, of Chenango County. Dr. Thomas C. Brinsmade, of Troy, was the Vice-President, and Dr. S. D. Willard, of Albany, was Secretary. The session was opened by a short address from the President, in which he touched upon the various topics to which he especially desired to call the attention of the Society. It was marked by a straightforward earnestness and a business-like manner that was highly ap-

preciated. The most important matters which came up for consideration the first day, were the following. The suggestion of a petition to the Legislature of the State for a more perfect registration law, came from the Broome County Medical Society, and led to considerable debate, being urged on one side, in consequence of the incompleteness of present returns, and opposed on the other, because it was as yet impossible to get a more effective law passed; and it was not wise for the Society to be always asking the Legislature to pass laws. The matter was referred to a committee consisting of Drs. Griscom, Orton, Hough, and Parker, who subsequently reported that it was best to wait, without action, till there had been a report on the same subject made to the American Scientific Association, as one was being prepared for that body with great care, and by able men.

A series of resolutions covering the death of Dr. Thomas Spencer, was adopted, and a memoir of him read by Dr. S. D. Willard. Dr. Brinsmade read a paper, according to the by-law which requires that service of the Vice-President. It was a sketch of his own registration of disease, for twenty-five years, and furnished some interesting facts. The paper cannot be well condensed or described in brief, and as it will appear in the Transactions, we shall await their publication, to refer to it again. It was highly appreciated by the Society.

In the afternoon, Dr. Griscom presented the claims of the bill for the improvement of the Sanitary Police of New York, that the members might lay it before the members of the Assembly and Senate with whom they were acquainted. Dr. Corliss, of Washington County, took occasion to "come down" on New York for its wickedness in that "I am holier than thou" sort of way, which is not very uncommon. All the vice of the city is looked at, and all of the goodness, the charity, and the piety, (which are great,) are ignored. The New York delegation were not silent under the imputation. Dr. Peter Van Buren, of New York, commenced reading an elaborate paper on Anæsthetics, which was interrupted by an adjournment. In the evening this paper was continued, and another on the same subject was read by Dr. Orton, of Binghamton. A paper by Dr. Coventry, on Cerebro-Spinal Meningitis; one by Prof. March, of Albany, on Urinary Calculi, and the exhibition of pathological specimens made up the occupations of the evening. After the adjournment, many members called on the Governor of the State, according to his invitation.

On Wednesday, the Society was requested to accept a present from Tilden & Co., manufacturers, consisting of sugar-coated pills, (an imperfect imitation of Garnier, Lamoureux & Co's,) some active principles

of plants done up in little papers like those used for seed, a good way too, and quantities of tincture of *veratrum viride*. Thanks were given to the makers. Some efforts were made to increase the proportion of delegates who could be elected permanent members, but an alteration of the statute was found to be a necessary step, to be first taken. A committee was appointed to attend to this alteration. Dr. B. Fordyce Barker, of New York, read a paper on "the comparative use of ergot and the forceps, in labor," in which he gave strong reasons for preferring the latter, and for using them more frequently than many do, while he at the same time urged a more sparing use of the ergot. We should say, that this was decidedly the paper of the session, interesting all by its practical character and well fortified reasonings. On its publication, we shall reprint a large part if not the whole of it. Dr. Van Dyck, of Oswego, read some obstetrical statistics; Dr. Orton, of Binghamton, an account of a case of ovariectomy, by the Dr. West; and Dr. Quackenbush, of Albany, reported a case of inversion of the uterus, with his method of treatment. Dr. Armsby, of Albany, showed his device for the radical cure of hernia.

The important papers of the afternoon were, a report of traumatic aneurism, by Dr. Bontecou; of a parasite growing on an ulcerated surface on a child's leg, by Dr. Harris, of New York; a paper on cerebro-spinal meningitis, by Dr. Kelley; and one by Dr. March, on "fractures of the neck of the thigh bone with bony union within the capsular ligament." The committee on the essays upon scarlet fever, reported that three were received, but at so late a date that they could not decide upon their merits, and asking to be continued another year, and that the invitation for essays be likewise extended.

In the evening, the President delivered the address required by the by-laws, in the Assembly Chamber, to a large and appreciative audience. His subject was "air, exercise, and sunlight," and though it was interesting and instructive, we must omit even a synopsis of it. At its close, the Society adjourned to the Delavan House, and sat down to the annual supper—a very pleasant affair.

Of the third day's session, we have now only to say, that it lasted about four hours—was occupied in part by the election of officers for the ensuing year, and in part by scientific papers and discussions, when the adjournment took place.

The session was, on the whole, much better than that of the preceding year, so far as the supply of scientific papers was concerned. No one regretted being present, while many declared that it had been to them a real benefit.

—At Albany, recently, a man was found in a dwelling house under circumstances which justified the suspicion that he was a burglar. He appeared to be deaf and dumb, but some doubts having arisen as to his really being so, Dr. Staats was consulted concerning him. The story of his treatment, and its success, is thus told by the *Evening Journal*. "The Doctor appeared at the jail, with several formidable weapons of blood and slaughter. By the aid of the jailor and several other officers in attendance upon the jail, the prisoner was placed upon and fastened down to a table. Thus secured, the Doctor after testing his instruments, announced the character of the operation, and that was to make a large incision in the throat, and thus reach the difficulty in the tongue. He said it was very dangerous, and the chances were about even as to the patient's surviving it. He stated that one of the material chances involved in the case, was as to the length of time that the disease had existed. Then addressing the patient in a familiar way, he asked him 'How long he had been so.' At once the fellow, in a doleful, pitiful, and cowardly tone answered, 'Oh! only a short time, Doctor!' The game was up at once."

—Palmer's Artificial Leg is so well known, that it is not necessary to say a great deal concerning it. But those who are not familiar with it, should take the uninterested testimony of the distinguished surgeons who have certified that it is the best yet invented. We have lately examined its claims in comparison with those of its principal rivals, and it seems clear that it holds the first place. The first patient that we ever saw who wore one, was a lady, and it was impossible to tell, by the gait, which was the artificial foot. This was then a marvel, but now it seems to be rather common to furnish persons who have lost both legs with useful substitutes, even when the amputation is above the knee. It is certainly a great work thus to restore to active life persons who must otherwise be among the most helpless of cripples. Palmer & Co's "*Artificial Leg Reporter*," which is distributed gratuitously to persons wishing for it, contains some interesting and valuable information concerning the place at which various amputations should be performed, when election is possible.

—"Your nauseous drugs disgust me," said Napoleon to his physician, Dr. Antomarchi. The whole world has felt this disgust, for the exhibition of medicines in a pleasant form has received but little attention from the profession. Empiricism has seized upon this distaste for the drugs so unpalatably presented, and under the guise of sugared nothings has established itself in our midst. To rob the dose of its

disagreeable feature was its sole office; that of true science is to guard its efficacy, while it presents it in an agreeable form. Now we have the means of giving the most nauseous drugs in the most efficient form without exciting the least feeling of disgust, or suggesting the idea that any medicine has been taken. Assafœtida can be swallowed *ad libitum*, without leaving in the mouth its characteristic taste or smell; quinine or strychnia can be given in suitable quantity, without the patient becoming aware that a powerful or bitter drug has been taken. To adults this may not be necessary, though it is a desideratum even with them; but for children this new form is particularly precious. We have tried many of the beautifully prepared sugar-coated pills of Garnier, Lamoureux & Co., and have been particularly pleased with their efficacy and convenience of administration. The pills of santonine have become a necessity with us as a vermifuge, and the *dragees* of copaiba and cubeb equal in every respect, if they are not superior to the capsules of the same disagreeable medicaments. A great advantage of this method of administering medicine is the certainty of each dose. This is especially true of the alkaloids, where the dose is sure and the preparation reliable. From all that we can ascertain in relation to the manufacture of these pills, they are prepared with the utmost care and nicety, the formula of which are no secret, having been published and widely circulated. The sugar-coating preserves the enclosed drug in its original freshness, as we know by the examination of some which have been in our possession for more than a year. The coating is sufficiently hard to bear transportation, and not so hard as to chip off or leave the contained pill bare.

—Some months since the demise of the *California State Medical Journal*, an excellent quarterly, was announced, greatly to our regret, for there was a vigor and freshness about its pages which was gratifying. It was discontinued, like many other worthy medical journals, from the failure of its subscribers to meet their part of the engagement, throwing both the labor and expense of publishing upon the editor. As its successor we have received the first number of a new journal called "*The Pacific Medical and Surgical Journal*." It was issued in January, and is a monthly of 48 closely printed pages. Dr. John B. Trask and Dr. David Wooster, of San Francisco, are its editors. This number is illustrated with a well-executed lithograph accompanying an able paper "on the Reproduction of Bones," by Dr. Tolland. We hope for the Pacific Medical Journal a prosperous career.

—A union has been effected between *The Western Lancet* and *The Cincinnati Medical Observer*. Dr. Blackman ceases to be an

editor, the allied journals being conducted by the former editors of the last named journal, under the title of the *Cincinnati Lancet and Observer*.

—The *Medical Independent*, of Detroit, closed its third volume and its existence with the February number. It has become incorporated with the *Peninsular Journal of Medicine*. Dr. L. G. Robinson retiring from the former, Dr. Moses Gunn uniting with Dr. A. B. Palmer in editing the latter, the three other former editors retiring. This concentrates the talent and patronage of the medical profession in Detroit and Michigan upon one journal.

—In England, Dr. Lionel Beale, who has so admirably conducted the work of Todd & Bowman to a successful termination, has issued the first number of a Journal, entitled *Archives of Medicine*. It is beautifully printed, profusely illustrated, and contains several articles of great practical value from Dr. Beale's own pen. The object of this new medical periodical is to furnish "a Record of Practical Observations, and Anatomical and Chemical Researches connected with the Investigation and Treatment of Disease." A portion of a clinical lecture by Dr. Todd, extracted from its pages, our readers will find among our selections.

—The Fire Marshal, in his annual report to the Common Council, has made some timely and important suggestions as to the use of hot-air furnaces. He disapproves of them, both on account of their danger, and as injurious to health. In our public schools, he says, they are considered as a source of much ill health among the children. In this connection, he makes the following remarks:

"It is found from experience that the heated air thrown off from furnaces and iron surfaces generally, is divested of most of its vit properties, and is apt to produce congestion. In the case of persons of delicate constitutions, this tendency is immediately developed by furnace heat, and hence the number of children who are sent back ill to their parents. But not merely is this effect complained of in our ward schools; it has long since attracted the attention of physicians, and in some families the use of the furnace is positively prohibited. In a climate where dyspepsia and nervous complaints are so common, and where but comparatively little bodily exercise is taken, it is obvious that any system of heating which produces these symptoms, is desirable to be avoided."

For heating purposes, especially large buildings where many persons are congregated, he prefers the use of hot water pipes, as giving a more genial warmth—though not so great a degree of heat—which is found to be less injurious to the health.

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ESSAYS, MONOGRAPHS, AND CASES.

On the Formation of Urinary Calculi. Read before the Baltimore Pathological Society, March 2d, 1858, by Prof. CHARLES FRICK, M.D.

I stated to the Society at a meeting held more than a year since, that I had been led for many reasons to doubt the explanation of the causes to which urinary calculi have been attributed. Further investigation into this matter has served only to strengthen this doubt, and I propose this evening, with your permission, to enter into an explanation of the reasons that have led me to the conclusions I shall advance. I would state, moreover, that these ideas, although original, to the best of my knowledge, with myself, are yet not entirely new—a somewhat similar suggestion having been offered by Sherer, some few years since when treating of the subject of the acid and alkaline fermentation of the urine.

Urinary calculus has always proved so serious a disease, that it is not astonishing that for many years various attempts should have been made to find some mode of effecting their solution, and thus avoid the formidable operation of lithotomy. When medical chemistry began to unravel and arrange the various recondite phenomena of the animal body, it seemed a necessary consequence that the urine, the only animal fluid independent of the laws of vitality, should be among the

first to exhibit some practical results. And it is only a few years back, that in the study of the various diatheses—the lithic, the oxalic, and the phosphatic—we were seduced into a fancied explanation of many of the phenomena of both health and disease. It is the custom to underrate those who seized with avidity this so attractive portion of their medical studies, and who were led too far by seemingly practical results. And these labors are considered to be not only without profit, but as indications of unsound reasoning and false pathology. This, I must admit, is in a measure true. However, it is not the fault of the facts if the deductions have been pushed too far, nor has the knowledge thus obtained been by any means without profit. In the history of the world, we are struck with the fact, that the greatest results arrived at in the advancement or civilization of mankind, have rarely been attained by seeking them directly, but have nearly always been brought into view in the search for some other object. Thus it was that the desire for gain, which made men traverse continents and seas, and endeavor to find the shortest passage to the Indies through the Arctic Seas, was the means, though unsuspected and indirectly, of promoting christianity and civilization, and benefiting all mankind. And thus, again, the alchemists, in the search for the philosopher's stone, begat when they little suspected it, a science that was to revolutionize the world. To bring the comparison within narrower limits, and refer to urinary pathology, as it has been termed, who does not see that if it has failed to explain, as definitely as was at first supposed, various specific diseases, of what immense importance it has been in elucidating the phenomena of various healthy and morbid actions not only connected with the urinary apparatus, but with nutrition generally?

But, as I have said, the distinction into the uric, oxalic, and phosphatic diatheses is now no longer tenable; and we are forced to confess, that in classifying and naming diseases in accordance with the nature and quantity of the various substances contained in the urine, we fell into the same error as the old physicians, who classified diseases according to their individual symptoms, instead of grouping them together in natural divisions, founded on distinct processes. While this erroneous view was taken of urinary pathology, it seemed a necessary induction that the formation of calculi should be dependant upon some peculiar salt, whose excess was thus deposited. But as these concretions were found to be composed of various layers, differing in chemical composition, the fact was readily admitted, that each subsequent layer was in great measure produced by the preceding;

and hence the composition of the nucleus became the real subject of practical importance; many pathologists deeming that if the diathesis which produced this nucleus could be altered, the subsequent deposition of stone might be avoided; and consequently, that an individual in whom the microscope revealed a constant deposit of uric acid or oxalate of lime might have the subsequent chances of a calculus removed by changing the diathesis which produced these substances in excess. That such hopes have not been fulfilled, is the common experience of all who have directed their attention to the subject.

The first point, manifestly, that offers itself for consideration, is the chemical nature of calculi. To solve this, I have tabulated the analysis of three different collections—that of Guy's Hospital, the Transylvania University, and the Tennessee collection—numbering in all 600 different specimens, and quite sufficient for the purpose of illustration. Thus in—

	Guy's Hospital.	Transylvania.	Tennessee.	Total.
Uric Acid	250	32	1	283
Urates	19	26	49	94
Triple Phosphate.... }	22	} 7	{ 108	} 139
Phos. Lime			{ 2	
Oxalate of Lime.....	47	7	15	69
Cystin.....	11	2		13
Foreign matters		4	1	5
Uric Oxide.....	1			1
	<hr/> 350	<hr/> 78	<hr/> 176	<hr/> 604

The relative proportion of these different ingredients varies, as is seen, between very wide limits, and I cannot but think that the mode of distinguishing uric acid from the urates must have differed in the analyses of these different collections. But that will effect but little the general results I aim to deduce. Suffice it, then, that we find these substances existing in the following proportion:

Urates and Uric Acid.....	63 per cent.
Phosphates.....	23 “
Ox. Lime.....	12 “
Cystin.....	2 “
Uric Oxide	1-6 of 1 “

I propose to consider in detail the physiology and pathology of these substances, in order to see what is the extent of our knowledge concerning them, and how far we are warranted in considering any excess as constituting a diathesis; what causes induce their deposition, and what part the urinary mucous membrane plays in effecting it.

The first of these, then, is uric acid and its compounds; but as its relations with urea, and its connections with it, are so intimate, I shall be forced to commence with this latter, the most important ingredient in a physiological point of view of the whole urinary secretion.

Urea.—The origin of urea and the sources of its derivation are not yet entirely determined, although numerous observations and experiments have been undertaken with this view, by most of the leading physiologists and chemists of the present day. Liebig, Bischoff, and others on the one side, have arrived at the conclusion that this substance is entirely derived from the metamorphosis of the nitrogenous tissues—while Lehmann, Bidder, Frericks, and Schmidt, admitting this source, maintain that in addition the quantity excreted is most unquestionably influenced by the amount of nitrogenized food. To myself, the facts stated as a result of Lehmann's experiments alone—provided they be reliable, and no one as yet has attempted to impugn them—seem to leave no other alternative than to adopt the explanation given by him. That its source is not entirely derived from the food is proved by the fact, that urea has been found in the urine of an insane man, who had taken no nourishment for fourteen days; and also in these patients who, laboring under fever or other diseases, have taken no aliment but an oily emulsion, or some emollient decoction. But on the other hand, that albuminous food does exert an influence over its formation, we have only to refer to the experiments of Lehmann and others, who show that its amount in the urine is always increased or diminished in the same individual, as the diet consists at one time of albuminous, and at another of non-nitrogenized food. As to the seat of its formation, numerous observers having detected it in normal blood, we may consider it as now established, that urea is not primarily formed in the kidneys.

In the present state of chemical knowledge, it is impossible to assume what particular tissues undergo the metamorphosis into urea; but knowing, as we do, that the substance is a very general product of the decomposition of nitrogenous matters, both within the animal body and in the chemist's laboratory, we cannot but conclude that it is most probably derived from the disorganization of all into which nitrogen enters as an element. Liebig failed to detect it in the muscular tissue, although he found substances from which urea could be produced artificially, such as creatine and inosic acid. It is therefore most probable, that one or both these substances are decomposed in the blood, by the alkalis and free oxygen, into urea, and other substances destined for excretion.

From what has been said, it follows as a necessary consequence, that the normal amount of urea must vary within very wide limits, dependant upon the two conditions already stated, namely, waste of tissue, and the amount of nitrogenous food. But as a result of numerous experiments, it may be concluded that 525 grains of urea are passed in the 24 hours, by the average of men in the prime of life. Sherer, Rummell, and Bischoff have paid great attention to this point, and from a table made up from their experiments, and detailed in the *British and Foreign Review*, for 1855, we deduce the following interesting facts :

At.....	3 yrs.	4 yrs.	5 yrs.	7 yrs.	18 yrs.
The amount of urea in grains in } 24 hours.....	209	240	280	281	562
For every pound of weight there } was excreted in grains.....	8.16	9.4	9.4	7.1	5.5
	22 yrs.	31 yrs.	38 yrs.	65 yrs.	
The amount excreted in 24 hours	416	605	459	296	
For every pound of weight	3.7	4.5	3.6	2.8	

Thus showing that the largest proportional amount is in early childhood, and diminishes as we advance in life. This is entirely in accordance with the theory of its derivation, for we know that the metamorphosis of tissue, as well as the digestion of alimentary material, takes place with greater rapidity in the young than in those more advanced in life.

It is a mooted question as yet, as to the influence the free use of water exerts on the metamorphosis of tissue, and the consequent formation of urea. Bischoff's experiments led him to the conclusion that abundant water drinking decidedly increased the excretion of this substance, while Vogel and Schmidt on the contrary affirm, that it is diminished under its use. Some twelve experiments of my own in relation to this matter, fully substantiate the fact as enunciated by Bischoff.

As to the different articles of diet, Bischoff again shows, that fat materially retards the disintegration of the nitrogenous constituents of the body, and therefore diminishes the amount of urea excreted. This result I also had attained, before I was aware of his experiments. I ascertained that, in the urine of a large number of patients to whom cod liver oil was administered as a remedial agent, the urea underwent a sensible diminution ; and I had supposed that this might be one of the explanations of the benefit derived from its use, in those suffering from tubercular disease, and those affections characterized by waste of tissue.

Bischoff also has shown that urea is increased under the administration of common salt. A dog was fed for one week on one pound of meat daily, during which time its weight remained constant; it was then fed for twelve days on the same food, with the addition of a daily allowance of 770 grains of common salt. During the first period the daily amount of urea was 362 grains, and during the second, 436 grains.

Böckler, Heller, and Lehmann have all ascertained that the use of tea and coffee diminish the amount of urea excreted. More lately Dr. Hammond has published the results of some experiments upon himself, in corroboration of the same idea. An average of ten analyses for ten successive days are given, during which time no tea nor coffee was taken. The result obtained was 670.6 grains. Compared to this, is the average of ten similar experiments while using daily thirty-two ounces of a strong infusion of black tea. The result is 617.7 grains; and while using the same amount of strong coffee, 639 grains. We are also indebted to the same observer for the results of very accurate observations, showing the influence of increased and diminished mental labor upon this substance, as well as the effects of increased and diminished exercise. The experiments were performed in the same way, and the same number of observations taken as before. The result of increased intellectual labor for fourteen hours daily, gave as an average 748.3 grains. As compared with this, we find he records 586.7 as a result of diminished intellectual labor, the healthy mean being still 670.6.

The results obtained by him under different degrees of exercise, he records as follows:

	Quantity of Urea.	Quantity of Uric Acid.
Moderate exercise.....	682	13.7
Increased "	865	8.2
No "	487	24.7

The relation of these two substances, urea and uric acid, to one another, here so marked, I shall speak of presently.

The question of most importance to us in the present consideration, is the relation of these two substances. Liebig was the first who advanced the hypothesis that urea was formed by the oxidation of uric acid; and although this has been denied, yet the weight of authority at the present day inclines to this view. There are some facts that are irreconcilable with this theory; for, were it strictly true, an increase of urea should always be in relation with a diminution of uric acid; and moreover, an increased supply of oxygen should produce an increased supply of urea. But Lehmann's experiments do not sub-

stantiate the first, nor can we very well explain the fact that birds, whose respiration and circulation is very rapid, should excrete no urea. On the other hand, Dr. Hammond, quoted above, supports the view of their mutual relation, as has been already shown. This view is also sustained by my own experiments, instituted several years since upon the convicts of the Maryland Penitentiary. I found uric acid in excess in those who were allowed but little exercise, and that in the same individuals the quantity of urea was proportionably diminished; while in those, on the contrary, who, from the nature of their occupations, underwent more muscular exertion in a better atmosphere, there was a larger quantity of urea and a corresponding decrease of uric acid. Still more decided is the illustration offered by Dr. Hammond, as to the influence of oxygen. He confined a black snake in a large jar, and fed it upon flies, grasshoppers, and other insects; at the end of a week he examined the excrement, but found no urea. He then fitted to the jar an air-tight stopper, through which he introduced a large quantity of oxygen gas, daily. At the end of the week, the excrement being again examined, undeniable evidences of the presence of urea were obtained. We therefore cannot but conclude that the probabilities are all in favor of Liebig's theory, although there still remain some facts to be explained before it can be universally recognized.

Not a great deal can be said as to the influence of remedial agents upon the excretion of urea. Those selected for experiment have usually been the alkalis or the alkaline salts, such as tartrate of potash and soda, the phosphate of soda, and liquor potassæ, in small doses. The effect of these has been to increase its amount to a greater or less degree. The most reliable experiments are those made by Dr. Parker, of London. He states that the alkaline salts of potash, and probably also soda, aid the diminution of urea in rheumatism, pneumonia, variola and typhoid fever. He says, moreover, that nitrate of potash seems also to do this in disease, but not necessarily in health.

Little information has as yet been acquired in regard to the changes that urea undergoes in different diseases. But Heller and Vogel have done more than other observers in relation to it. The first, states that the greatest increase was observed in acute meningitis, and that in pneumonia, acute tuberculosis, and rheumatism the urine is very rich in urea during the state of exudation, but diminishes during resorption.

What, then, is the pathological value or therapeutical indication to be derived from an increase or diminution of urea. I cannot think that

its quantity will ever throw any light upon the nature of special diseases, or afford us any indications for treatment. Its presence, as has been shown, being due to metamorphosis of tissue and ingestion of nitrogenous food, any excess must be owing to one or the other of these causes. Consequently, we meet with it whenever waste is going on rapidly, or when an excess of nitrogenous aliment is taken as food; and its deficiency is always due to the reverse of one or the other of these conditions. We find oftentimes, in diseases affecting the structure of the kidney, that there is a great deficiency of urea in the urine. But this is because, although formed, it is not excreted. It still remains in the blood and produces poisoning, probably not as urea, but by being converted into carbonate of ammonia, by decomposition. As to an excess of urea occurring under such circumstances as to produce a distinct disease or diathesis, this I have never seen, and I am confirmed in this opinion by Lehmann stating the same thing. It can under no circumstances evidence more than an effect; and it would seem to be more philosophical as well as scientific, to endeavor to ascertain this cause, than to be led into the error of mistaking a symptom for a disease.

After what has been stated, we are ready to admit that *uric acid* is a substance one degree higher in the scale of descending metamorphosis of matter than urea. We cannot assert of it more than of urea, the special substances from which it is first produced, or the locality in which it is formed. But in all probability the tissues in disintegration pass through the intermediate form of creatine and inosic acid, before appearing as uric acid. According to Lehmann, if uric acid be taken into the stomach of a healthy man, it is followed by an augmentation of urea and oxalic acid in the urine; and the same thing may be accomplished by decomposing uric acid by perox. lead. This substance is less influenced by the quality of the food than urea, and is always increased relatively to this principle by those causes that interfere with the oxidation of the tissues.

The ratio that it bears to urea in normal urine, is as one to thirty, and to the other solids, as one to sixty. After taking an indigestible meal, it oftentimes becomes absolutely increased, bearing in the first ratio as 1 to 23, and in the second, as 1 to 41. Consequently, it has been shown that in those diseases termed obstructions of the portal circulation, as well as hæmorrhoids, it is absolutely increased. This is also the case in that group of symptoms designated fever; the acid or its salts, either separating and forming a deposit after voiding the urine, or remaining dissolved in it. Gornod found a constant and

well-marked diminution of uric acid before the paroxysms of both acute and chronic gout. But in these instances there was always an abnormal quantity in the blood. In rheumatism, the reverse is the case, the excess being in the urine, and the deficiency in the blood. "We cannot, however, explain gout by attributing it to this excess, which latter is merely owing to deficient oxidation of the elements of the blood. There is no acute, and but few chronic diseases in which this oxidation is not deficient; and moreover, there is no disease which owes its accompanying symptoms to either a too sudden or too rapid oxidation of the blood."*

But it is important to know that a deposit of this acid or its salts does not always occur because there is an excess. Indeed, such is never the case from excess alone. To be excreted from the blood at all, it must be in solution, and as it is then removed from the laws of vitality, and free to be influenced by chemical reaction alone, the cause of deposition whilst in the urinary passages must be looked for either in the composition of the urine itself, or in the membrane over which it passes. The forms in which this substance is found to exist as a deposit are urate of soda, urate of ammonia, and more rarely urate of lime. Now ammonia, as is well known, is not a constituent of healthy urine, but results from decomposition of the urea, either before or after emission. The existence, therefore, of urate of ammonia implies that decomposition has taken place after secretion. This decomposition is more likely to occur in the bladder than elsewhere, and hence calculi of urate of ammonia should be most commonly found in this viscus. Such in reality is the case, and I am not aware that any having this composition have ever been reported as renal calculi. Urate of soda, on the other hand, is the normal condition in which uric acid exists in solution, and if ammonia alone be produced by decomposition, the urate will be found in this form. Again, if from decomposition a stronger acid than the uric be developed, this acid will unite with the soda, and the result will be a deposit of uric acid alone.

It is exceedingly rare for urine on its emission to contain free uric acid, or urates as a deposit, although the contrary is quite commonly received, the mistake being made by examining the specimen a short time afterwards, when in many cases changes in the relations of its elements have taken place. These changes are produced by the metamorphosis of the pigment into lactic acid, and sometimes also acetic, by the influence of the mucus of the urinary passages. Sherer was the first who drew attention to the subject, and he has proved almost be-

* Lehmann, vol. i., p. 219.

yond doubt that such is the case. He terms the process, acid urinary fermentation. Every healthy man's sedimentary urine, exposed to an ordinary temperature, begins after a longer or shorter time to separate uric acid, and have a more acid reaction. Faintly alkaline urine, such as is passed after vegetable food rich in alkalies, acquires after a time an acid reaction, which may increase so much as to clear up any turbidity occasioned by phosphates, and produce deposit of uric acid. He says this fermentation extends from 4 to 5 days, although under a low temperature it may increase for three weeks, and not subside for six. A very little observation will prove the correctness of these facts, and also of the cause; for, if perfectly fresh urine be boiled, or have alcohol added to it, or still better, filtered, which causes either prevent fermentation or remove the ferment, the changes above described do not take place. Now, if the quantity and quality of the mucus, instead of being normal, be altered in one or both respects, the same results may be produced, before the urine has left the bladder.

We must thus conclude that deposits of uric acid alone, are not only not pathological symptoms, but do not even evidence that the urine contains this principle in excess. And even when passed from the bladder, already deposited, it merely evidences that fermentation has taken place within the viscus. We cannot recognize, therefore, any such disease as a uric acid diathesis, inasmuch as an increased amount is merely due to a simple departure from ordinary physiological laws; and a deposit, to changes taking place in effete organic matter.

The next ingredients after uric acid, that we find enter as constituents into urinary calculi, are the *phosphates*. Of these I shall have less to say, as the causes producing their deposition are more apparent than of the others. The quantity of phosphoric acid and phosphates eliminated by the kidneys has been investigated carefully by several observers—principally, however, by Mosler, Breed, and Winter. The first of these estimates the daily healthy average of phosphoric acid at 49 grains; the second, as high as 61 grains; while Dr. Hammond, in his paper already quoted, averages them only at 43.7 grains. This acid exists in the urine partly as *phosphate of soda*, and partly as *phosphates of lime and magnesia*. Mosler states that the relation of these to one another in a state of health is as three to one, or 36.5 grains of the first, to 12.5 of the other. Both Breed and Mosler ascertained that the quantity of phosphoric acid secreted was greater (both absolutely and relatively) during the waking hours than during sleep, particularly during the evening and afternoon; next in order stood the mid-day and night urine; while that passed in

the morning always contained the least. Mosler states, also, that the phosphoric acid in combination with the earth, is to that in combination with the alkalies, as 1 to 2 in the morning urine; as 1 to 4 in that passed at mid-day; and 1 to 3 at night.

The results obtained by Dr. Hammond are as follows:

Normal amount of phosphoric acid	43.7 grs.
Normal amount of phosphoric acid under } increased intellectual efforts	67.2 grs.
Normal amount of phosphoric acid under } diminished intellectual efforts	
	25.4 grs.

Not much additional information in regard to disease, or the amount of phosphates, has been added since the appearance of Dr. Bence Jones' work on Animal Chemistry, published in 1850. The conclusions he there arrives at are, that neither the earthy nor alkaline phosphates are increased in spinal diseases, nor in fevers or acute inflammation of fibrous, muscular or cartilaginous tissues. That in chronic diseases where the nervous tissue is unaffected, in chronic mania, melancholia, and general paralysis of the insane, no marked results are perceptible. That in chronic diseases of the brain, and in both chronic and acute affections of the membranes, there is no increase in the total amount of earthy and alkaline phosphates. That in acute diseases of the brain there is an excessive amount of these salts in the urine, but when the inflammation becomes chronic, no excess is perceptible. Finally, that in some functional diseases of the brain an excessive amount of phosphates is observable, and this ceases as the delirium passes off. Delirium tremens shows a remarkable deficiency in the amount of phosphates excreted, provided no food is taken. When food can be taken, the diminution is not apparent.

The sources from whence phosphoric acid is derived, are manifestly the food, and the normal disintegration of tissues. The proportions in which it unites with soda, lime, and ammonia vary with the amount of these latter present. And as it has been found increased only in one class of disease, namely, inflammation of the brain, and this from the increased waste of phosphorized, tissue merely, there can be no ground for assuming any such morbid condition as a phosphatic diathesis. But the causes of their deposition are the subject matter of interest at the present time. However large their amount may be, a very feeble acid is sufficient to retain them in solution, and on the other hand, the whole is often precipitated directly, if the reaction of the urine be alkaline. This latter occurrence is exceedingly common in persons who, from paralysis or other causes, have lost the ability to emp-

ty their bladders, or who are affected with chronic inflammation of this organ. In the latter instance an undue amount of altered mucus is secreted, which, acting as a ferment upon the urea, produces as a result ammonia, by which the acid reaction of the urine is removed, and the phosphates at the same time deposited. It is curious again to remark, that phosphatic calculi are rare, if they ever appear at all, out of the bladder—renal calculi being almost entirely composed of oxalate of lime and uric acid. We must, therefore, look for the causes of phosphatic calculi almost always in the bladder alone.

I come now, lastly, to the consideration of *oxalate of lime*. This salt has never been studied with the minuteness and detail that have characterized the other ingredients of healthy urine; partly because its amount is always small, partly because its detection is not so easily accomplished, and principally, because it is only within a few years that it has been recognized as a healthy, and not a morbid ingredient of the urinary secretion. Not many years have elapsed since pathologists recognized in a few octahedral crystals the existence of a definite morbid condition; and there are few of us who did not see, as we thought, in the results arrived at by the use of nitro-muriatic acid, a confirmation of these pathological views. But that oxalate of lime is an ingredient of healthy urine, and exists in solution, may be readily proved, either as Lehmann suggests, by exposing a healthy urine out of doors to a temperature just below 32°—by this means the water alone freezes slowly, the urine concentrates slowly, and the crystals are found in the deposit in the form of octahedra—or again, evaporate to dryness any specimen of healthy urine, add alcohol to the residue, and filter it. After ten days, I have invariably found octahedral crystals deposited, which could only be oxalate of lime. Moreover, that these crystals, which are exceedingly common in urine under all circumstances, are not derived from the mucus of the bladder, as has been asserted, may be proved by filtering fresh urine. After it is cool, they may often be found deposited, although undetected before. Admitting, therefore, the existence of oxalate of lime in healthy urine as an ordinary constituent, we are to inquire into the causes of its deposition in the form of a sediment or calculus. This, unfortunately, it is not easy to arrive at, for the reasons I have already mentioned. Certain it is, however, that crystals of it are most commonly found after the use of vegetable food, particularly of such as contain ready-formed oxalates. It has been found as a deposit very often after the use of sparkling wines, or beer containing much carbonic acid. But if taken into the stomach by itself, it does

not pass out as such. Lehmann's view, the one most generally received, is, that an increased amount is dependant on disturbance in the respiratory function and imperfect oxidation of certain substances in the blood. Nervous influences which affect this function also tend to produce an increased amount, and its presence in the urine may in part be explained by its formation from uric acid, but it must be recollected that there are also other substances from which it might be formed as well. However, with these facts, there is no need to consider its presence as indicative of a special diathesis, more particularly as the diathesis is assumed to exist from the presence of a single symptom, which is contrary to and opposed to all rational medicine.

Having shown thus far, that uric acid, the phosphates, and oxalate of lime are healthy constituents of urine; that the existence of a deposit of either of them by no means proves that they are in excess, and may even be coincident with a diminution; and, moreover, that there can be no such condition as was formerly assumed, and as even now is often spoken of, namely, an oxalic, a uric, or phosphatic diathesis; it remains to glance for a moment at cystin and cystic oxide, which occasionally, though rarely, are found existing as urinary concretions. Of these, however, we know scarcely anything. A few rare cases have been observed in which a sediment of cystin was found in the urine. Coexistent with this deposit, was a broken-down state of health, and nearly always scrofula. But no one has assumed that these phenomena bore to each other the relative cause and effect, and although various speculations have been enunciated to explain the pathology of these cases, the question is still involved in as much difficulty as at first. Of cystic oxide, nothing more is known than that in some 4 or 5 cases calculi have been extracted, which differed from all other calculi in their appearance and chemical reactions. We therefore may conclude that if there be no special diathesis in the cases where uric acid, the phosphates, and oxalate of lime are found, there are none in the two just mentioned; and, moreover, that the causes which produce a sediment, or calculus, are similar in both instances.

Having now dismissed the subject of diathesis, the most important argument to combat, let us next examine the various statements that have been noted by careful and intelligent observers, and see what bearing they have upon the subject under consideration.

Dr. Gross has added, in the form of an appendix to his work on "Diseases of the Urinary Organs," some important facts in reference to the frequency of calculus in various parts of the world, more par-

ticularly the United States. From the information there embodied, I am enabled to arrive at the following conclusions:

Those portions of the United States where stone in the bladder is most frequently found, are Kentucky, Tennessee, Virginia, Ohio, and North Alabama.

In Indiana, New York, Pennsylvania, Maryland, the New England States, Canada, Texas, and California, it is very unfrequent, in the four latter places being scarcely known.

Moreover, that in all these places indiscriminately, without relation to the frequency or infrequency of calculus, urinary deposits of all kinds are exceedingly common.

I learn from other sources that in England, Holland, and the North-eastern part of France, this disease very frequently occurs, probably more so than in any portion of the United States. While in Switzerland, Germany, and the lower part of France, it is very rarely found. In regard to the rest of Europe, India, &c., very contradictory statements only can be obtained.

Moreover, that seamen are scarcely if at all liable to it; and this is true not only as regards our navy, but, on the authority of Dr. Hutchison, of England, it is a rare disease among the commercial seamen of Great Britain.

It is also stated by Dr. Gross, that the negroes of Kentucky and Tennessee are very seldom operated on for stone in the bladder.

So much for localities. In reference to habits of living, we find that it is almost entirely an affliction of the lower classes, the better being comparatively exempt. That beer or cider drinking, which have been looked upon as causes, if they produce any effect, rather act as preventives, as the German population of this country who drink beer, and the New Englanders who drink cider, rarely suffer from it. That gin drinking, which has been assumed to have some effects, is of little importance, as this habit is confined to Holland alone; and moreover, the Hollanders, who have carried this habit with them to Batavia, are there entirely exempt from the disease.

Great stress has been paid to geological peculiarities, particularly limestone districts; and it has been supposed that the use of water impregnated with calcareous salts, offered a solution of the question. But here again we find that Holland, England, and the Northeastern part of France are not lime districts; that New York and many parts of New England abound in this formation; and that, according to Dr. Gross, the cases afforded by Kentucky and Tennessee are

found about equally divided in the limestone districts and those free from this mineral.

A comparison of the diet used in the various countries under consideration affords no better solution; nor can anything be said in reference to particular latitudes, but that the disease is much more common in temperate regions than in northern countries or the tropics.

There is one other condition, however, which has not yet been alluded to. This is the hygrometric condition of the atmosphere. It has already been suggested by Dr. Copland Hutchison, that the comparative exemption of sailors might be explained, among other causes, "by their exercising the functions of respiration with unusual vigor," and "by the copious perspiration produced in the sailors on board ships of war, owing to the narrow space into which their hammocks are crowded during the night." I cannot but think that this suggestion of Dr. Hutchison is entitled to more weight than as yet has been accorded to it. Nor would I propose a chemical explanation, such as has been offered. It has been said that, by the free action of the skin, excrementitious matters are gotten rid of, which, if retained, could only be eliminated by the kidneys in the form of uric acid, urate of ammonia, &c., thereby producing an excess of those ingredients in the urine, and consequently a tendency to deposition in the form of calculus. I have already shown that mere excess of any particular ingredient in the urine has no effect in producing a deposit; and in addition, that urinary sediments are quite as frequent in non-calculous districts as those where it is most commonly found. Some other cause, then, must be looked for to explain this affection.

Of all places in the world, England, Holland, and the Northeastern part of France are notoriously those in which the humidity of the air exists to the greatest degree. There is a striking contrast between the moist damp atmosphere of those places, and the clear sky and dry air of Switzerland, Germany, and the South of France. This is also proved by the dew point, which, by direct observation, is found to be higher in the first mentioned places than the others. We have not the same exact data to rely upon in reference to our own country, but the following facts, which I gather from Dr. Drake's book on the "Climate of the Valley of the Mississippi," are of exceeding importance, as far as they go, in bearing out this same view. Thus, the average annual amount of rain in inches in the places mentioned below, are as follows:

Mobile.....	66.9	Fort Leavenworth...	32.6
Natches.....	60.1	New York	33.3
Huntsville.....	64.8	Lake District.....	29.3
Nashville.....	55.0		
	<hr/>		<hr/>
Average.....	61.1	Average.....	31.9

The first of these being, as I have shown from Dr. Gross, the stone districts, while the latter are comparatively exempt. Again, Dr. Drake makes the following statements in regard to the moisture of the air in the various districts, as ascertained by the dew point.

West of the Gulf of Mexico and Mississippi, very dry.

Lake Region, very dry.

Arctic Region, scarcely any moisture.

East of Mississippi, particularly Tennessee and Kentucky, very moist.

A friend has also directed my attention to a statement in Dr. Livingston's book, in which he says that in the interior of Africa the climate is remarkably dry, and the air free from moisture, while at the same time calculous diseases are entirely unknown.

I think we may conclude, therefore, that a moist climate does have the effect of producing urinary calculus; and the next question is, how does it effect it?

In the first place, an undue amount of moisture in the air interferes with the action of the skin, and predisposes individuals living in such a climate to congestion and inflammation of the mucous membranes. Of the important rôle it plays in the production of catarrh, bronchitis and pneumonia, I need not speak; that it influences also the lining membrane of the urinary apparatus in the same manner, although not to the same degree, we can readily understand; and we have then as a result, the mucus and epithelium secreted by this congested membrane altered either in quantity or quality, or in both.

Secondly, a much larger proportion of every calculus consists of animal matter, than is generally supposed; and Dr. Haskins, of Kentucky, states that if a small quantity of calculus matter imperfectly pulverized, and partially dissolved, be placed under the microscope, the particles thus examined, when completely divested of salts, will be found to bear so great a resemblance to epithelium scales, as to be easily mistaken for them. Moreover, in examining the centre of most calculi, it is found (particularly of late years, for previously the diathesis was considered all important,) either that the nucleus consists of a clot of blood, mucus or epithelium, or that there is a small central space produced by the contraction of these substances, after the

calculus has formed around them. And to quote authorities, Prof. Sharling, of Copenhagen, says that, "if we attentively examine any of the fissured or perforated calculi so often met with, or in which a central mass of crystals replaces the usual nucleus, we shall have evidence of the manner in which a clot of blood, a flake of mucus, or albumen detains the salifiable ingredients, the hydrates as it were, and forms the elements of a nucleus, which consolidates, and in its turn constitutes the centre for future deposition."

Thirdly, all observers agree that stricture of the urethra, disease of the prostate, and organic disease of the kidneys, ureters and bladder, have a decided effect in producing calculi. In all these cases the mucous membrane itself is more or less altered. I need but allude for a moment to the common occurrence of foreign substances, introduced from without, constituting a nucleus, and how inevitable it is that a calculus should be formed when such substances are present. Now, I have already alluded to the fermentation that ensues in urine, by which changes in its acid and alkaline reaction are induced, and which will explain all or nearly all the deposits that are found in the urinary secretion. We have also seen that the frequency of these deposits in different places bears no relation to the frequency of calculi. Moreover, that in a majority, if not in all calculi, the nucleus, as well as a large portion of the calculus itself, consists of animal matter; that these concretions occur most frequently in moist climates, and that such climacteric conditions induce a morbid secretion from the urinary mucous membrane.

Do I go too far, then, in attributing to this morbid secretion the necessary element for the production of calculus? What this consists of, whether blood, mucus, epithelium, or albumen, it is hard to say; whether congestion, acute or chronic inflammation, we do not know. But admitting the fact, that it is to the mucous membrane we are to look, and not to the composition of the urine, as the cause of calculi, will we not gain more by addressing our treatment to the urinary passages, than to some fancied excess or deficiency of its component elements? I am aware that the question I have been discussing at so much length, is more scientific than practical; but I am led to think that it is better to take a correct view of a pathological condition, even though the results be only of importance indirectly, than to grope on in error, taking for granted what other men have written, instead of inquiring for ourselves.

The Physiological Researches of Dr. Brown-Séquard. By E. R. PEASLEE, A. M., M. D.

The readers of the MONTHLY have already had their attention called to some of the researches of Dr. Brown-Séquard, and the conclusions he has based upon them; but, so far as we are aware, no complete abstract of them has yet appeared in the English language. Such an abstract is therefore here attempted.

Of course, entire justice cannot be done to this most distinguished of experimental physiologists, by a mere resumé; but the great interest and practical value of his labors demand this, at least, for the benefit of our readers, and the profession generally. We shall therefore confine ourselves mainly to the results of his researches, and their practical applications, to the omission of most of the experimental details. We derive the materials for the following abstract mainly from a notice of his works, published by Dr. Brown-Séquard, two years since; and shall, at another time, call attention to his more recent investigations.

I.—*Dr. Brown-Séquard's Experiments on the Nervous System.*

I. THE SPINAL MARROW, (INCLUDING THE MEDULLA OBLONGATA,) AND ITS NERVES.

I.—A *division of one lateral half of the Spinal Marrow*, opposite the last dorsal or first lumbar vertebræ, is found to produce the following singular changes of nutrition. (1.) The cornea, on the side operated upon, quite frequently becomes ulcerated; and in other cases becomes opake to a greater or less extent. These alterations, however, usually disappear rapidly and spontaneously. (2.) The suprarenal glands become congested after the section; and at the end of several months, they are found hypertrophied, sometimes to two or three times their natural size. (3.) The posterior extremity, on the side of the section, manifests phenomena like those in the face, which follow the section of the great sympathetic nerve in the neck, viz., dilatation of the vessels, elevation of temperature, increased muscular irritability, and a lengthened duration of it, and of the excitability of the motor nerves after death; a later appearance and a longer continuance of the cadaveric rigidity, and a later development and slower progress of the putrefactive process. These last phenomena show that the nerves of the blood vessels of the extremity are continuous into the spinal cord, and have been divided in the section.

II.—The effects on the intensity of the *reflex* (diastaltic) function of

the cord by a *transverse section* entirely through it, are very remarkable. The following occurred in a frog, whose spinal cord was divided on a level with the 3d pair of nerves; the voluntary strength of the posterior extremities being sufficient to raise 900 grains $\frac{1}{12}$ of an inch.

(1.) Immediately after the section the motor force is sometimes null; but generally is reduced to $\frac{1}{4}$ or $\frac{1}{3}$ its normal amount. It never remains unchanged. (2.) Five minutes after the operation the motor force is from $\frac{1}{3}$ to $\frac{3}{4}$ its normal amount; in 15 minutes, from $\frac{1}{2}$ to even its original amount; and in 20 to 25 minutes it is generally the same as before the operation. (3.) In an hour the force is sometimes doubled, but generally not increased to this extent; in 2 or 3 hours it is doubled, and sometimes tripled; and in 24 hours arrives at its maximum, though it augments very slowly after the first 3 hours. (4.) It remains almost stationary, after attaining the maximum, for 6, 10, 15, or 20 days, and then gradually decreases, so as to be reduced, if the frog lives 6 to 8 months, to $\frac{1}{2}$ or $\frac{1}{3}$ its original amount.

But by powerfully exciting the reflex action many times, in an animal whose spinal cord has been transversely divided behind the brachial enlargement, the reflex functions may be made to disappear almost entirely; though the power is again nearly restored by perfect repose, in 15 to 20 minutes.

A transverse section of *all the white substance* of the spinal cord in the cervical region, does not destroy the sensory communication between the encephalon and the various parts of the body; the gray central substance still conducting sensory impressions. This, Dr. B-S. believes, proves that all the sensory fibres in the nerve-trunks are not continuous into the encephalon. But he maintains that each sensitive fibre, which really does ascend from the cord to the encephalon, represents several fibres from the sensitive surfaces or parts; being continuous with them, through the medium of cells or otherwise.

III.—Dr. B-Séquard concludes, from his experiments, that the fibres of the posterior or sensitive roots of the spinal nerves divide, on entering the cord, into two series, *ascending and descending*. The *ascending* pass towards the encephalon, (1) after penetrating the posterior columns, or (2) in the interior of the posterior gray cornua, or (3) after entering the lateral columns; and soon plunge into the central portion of the gray matter of the cord. The *descending* fibres pass through the same parts in the opposite direction, and also terminate in the central gray matter. The sensory impressions brought thus to the gray matter are transmitted either *by* or *through* the latter to the encephalon. There is a third class of fibres in the posterior

roots of the spinal nerves—the *transverse*. These are probably *not sensitive* fibres.

Thus Dr. B-S. holds that sensory impressions are at first transmitted, some upwards and some downwards; but all reach the central gray matter, which in its turn transmits them to the encephalon.

[It is very generally taken for granted that the gray matter of the cord consists of mere cells and blood vessels, without an admixture of nerve fibres. It, however, really has one half or more of its bulk made up of nerve fibres. These also are mere continuations of the fibres in the sensory roots, penetrating to the central gray matter, as Dr. B-S. has demonstrated. These *fibres* therefore in the gray matter, and not the latter merely as gray (or cellular) matter, conduct the sensory impressions to the encephalon; they being also continuous to the latter, as is explained in my work on Histology, p. 457–9. E. R. P.]

Dr. Brown-Séguard has also shown that sensory impressions are transmitted principally *across* the spinal marrow, i.e., from the sensory nerves on one side, through the opposite half of the cord to the encephalon. After transversely dividing one half of the cord, he found that the posterior extremity of that side is even more sensitive than in the normal state, while the limb on the opposite side is less sensitive than before. Thus we explain the fact, that anæsthesia on one side of the body often results from injuries upon the other, i.e., of the opposite half of the nervous centre; and whether the lesion be in the cord or the encephalon, the result is the same. Dr. Brown-Séguard concludes that most, if not all sensory impressions are conducted across to the opposite side of the cord, and that the crossing is generally effected immediately on entering the cord; while in a few instances it occurs above the point of entrance of the nerve fibres, and in a few also below this point.

[The crossed direction of the nerve fibres entering the cord, thus inferred by Dr. B-Séguard, has also been rendered probable by the observations of Kölliker, as shown in the work on Human Histology, (p. 456,) above referred to.]

While, however, the loss of sensation consequent on a lesion of one half of the nervous centre *always* occurs on the *opposite* side of the body, wherever the lesion may be—a loss of voluntary *motion* produced by such a lesion may be on the opposite or the same side, or on both sides, according to the precise seat of the lesion. Dr. B-Séguard has shown that if the lesion is seated anywhere *above* the lower part of the medulla oblongata, the loss of motion as well as

sensation occurs on the opposite side; while if it implicates the medulla oblongata at the decussation of the anterior pyramids, the loss of motion will effect both sides, and that of sensation the opposite side only; and if below the medulla, (i.e., in the spinal marrow,) the loss of motion occurs on the same side, and that of sensation on the opposite. [These facts are at once seen to be of the utmost importance in diagnosis.]

In regard to the *different degrees of sensibility* in different portions of the sensory nerve fibres, Dr. B-S. finds the highest sensibility just where these fibres enter the cord in the posterior roots; the next lower degree in the papillæ of the skin; next, in the posterior roots themselves; and last, in a trunk uniting all the fibres, from a certain surface of the skin. On the other hand, the same fibres manifest no sensibility at all after entering the gray central substance of the cord. He finds that the trifacial nerve loses its sensibility after passing a very short distance into the encephalon, and that sensitive fibres (in the rabbit) lose their sensibility while passing through a spinal ganglion, and recover it on emerging again therefrom. This fact, he thinks, demonstrates that the "power of transmitting sensitive impression may exist in a part which has not the power to receive them." [We suggest that the term *impressibility* may be more accurate than *sensibility* in the preceding statements; and that the different structural relations of the nerve fibres in different parts of their course may explain the facts just related.]

Dr. B.-Séguard has shown, that the direct exposure of the spinal cord to the air is, in all the mammiferæ usually experimented on, entirely without danger. Facts also warrant the same conclusion in respect to man. He therefore proposes to trephine over the cord for the removal of spicula of bone or depressed portions, in all cases (as of fracture of the vertebræ) requiring this operation. He also found that when he removed the posterior arches of several of the vertebræ, (in several species of animals,) they were reproduced, the new portions being generally wider than those removed, and often adhering together. They generally left the spinal canal of the normal diameter.

IV.—In regard to the *regeneration* of the nervous tissues, M. Flourens has demonstrated, that wounds of both the encephalon and the spinal cord may cicatrize. Dr. B.-S. has demonstrated that the voluntary motions, and sensations, may return after a complete transverse section of the spinal cord. He has also seen a case of complete return of voluntary movement, and of sensibility, after the division of

the sciatic nerve. A microscopic examination with M. Lebert, demonstrated that the nerve fibres had re-united.

V.—In regard to the functions of the *medulla oblongata*, Dr. Brown-Séquard has arrived at the following conclusions:

I.—*Its influence on the nutritive functions.* M. Flourens found that the removal of even a small part of the medulla oblongata in the higher vertebrata, at their ordinary temperature, immediately produces death. Dr. Brown-Séquard's experiments have led him to the following results: (1.) In autumn and winter, frogs will live several weeks after the removal of the medulla only, or of this and the rest of the encephalon—of the portions of the latter in front of the medulla—or of the whole encephalon, together with the portion of the spinal marrow which is in front of the roots of the 2d pair of nerves. (2.) Frogs may live one or two weeks during the cold season with one-half, one-third, or even one-quarter of the spinal marrow; all the rest of the cerebro-spinal centre being destroyed. They also manifest most of their organic functions. (3.) The spinal cord seems more useful, in relation to the organic functions, than the medulla oblongata and the rest of the encephalon. A portion of the former, (that which gives rise to the 2d and 3d pair of nerves,) contains less gray matter than the medulla, but nevertheless maintains life as long, or even longer, than it does. (4.) All parts of the cerebro-spinal centre, except the lobes of the cerebrum, seem subservient to the organic functions. And whatever part is removed, life ceases within from a few days to five weeks; while whatever part is left alone, life continues at least three days, and generally longer.

The maximum duration of life, after the entire removal of the medulla oblongata, varies with the species, as the following table will show:

FISHES.	{ Eels	lived.... 6 hours.
	{ Carp, Tench, &c.....	3 “
	{ Perch, &c.....	25 to 40 “
AMPHIBIA.	{ Salamanders, }	..... more than 4 months.
	{ Frogs, }	
	{ Toads.....	4 to 5 weeks.
REPTILES.	{ Tortoise	9 to 10 days.
	{ Lizards	4 to 6 “
BIRDS.	{ Sparrow-hawk, }	just hatched.... 17 to 21 minutes.
	{ Magpie, Sparrow, }	
	{ Linnet, Pigeon, Hen, Duck, &c.....	1 to 2 “
MAMMALS.	{ Hedgehog, (while hibernating)	23 hours.
	{ Puppies and Kittens, (new born)....	46 to 41 minutes.
	{ Hedgehog, (in summer)	4 “
	{ Dogs, Cats, Rabbits, Guinea Pigs.....	3 to $\frac{3}{4}$ “

From the preceding it appears that after the removal of the medulla oblongata, the duration of life is estimated in frogs and salamanders by *months*; in some reptiles by *weeks*; in other reptiles and in fishes, by *days*; in certain animals, while hibernating, by *hours*; and in birds and mammals, by *minutes* merely.

In frogs, deprived of the medulla oblongata, Dr. Brown-Séquard finds, (1.) that the circulation of the blood continues apparently, as before, except that the contractions of the heart become more frequent during the first half-hour after the experiment. This demonstrates that the cardiac contractions do not depend on the medulla oblongata. (2.) That the contractions of the four lymphatic hearts also continue normal. (3.) That digestion is also not interfered with; so that it does not (in frogs) depend upon the pneumo-gastric nerve. (4.) That the secretion of urine, and the production of epithelium on the skin and mucous membranes, still continue normal. (5.) That aëration by the skin, as well as absorption of water or poisonous substances, continues as before. (6.) That the reflex (diastaltic) function of the spinal marrow becomes so much augmented, that frogs, operated upon, move far greater weights than they can overcome by voluntary efforts. Of course, then, the nerves and the muscles retain their vital properties. (7.) That the galvanic current in the muscles becomes stronger. (8.) That the vital properties of the cord, the nerves, and the muscles are so augmented, instead of being diminished, that on etherizing an animal experimented upon, or on removing the heart, these properties remain longer than in the normal condition. (9.) In all animals, life continues longer the lower the temperature. (10.) It is not the fact, however, that the animal experimented on lives longer at a low temperature, merely because it expends its vital force more slowly; the aggregate of the vital phenomena being the same as at a higher temperature. For the frog lives in winter, when the heart beats thirty-five times per minute, for four months, a period requiring more than six million of beats; while in summer, with forty-five contractions per minute, it lives but six hours, a period including but sixteen thousand two hundred beats, or $\frac{1}{375}$ of the former number. There is, therefore, a far greater exertion of vital force in the former than in the latter case.

On the other hand, respiration by the lungs at once fails on the removal of the medulla oblongata; it having been shown by M. Flourens that a very limited portion of it is the centre of this function. And the reason why life continues so much longer after its removal, at a low temperature, is, that the resistance to asphyxia is thus proportionably increased.

II.—The *auditory nerve*, rising from the medulla oblongata, is regarded by Dr. B-Séguard (with M. Flourens) as in part a *nervous centre*, while the rest is merely the nerve of audition. Puncture of this nerve causes the animal (mammals) to roll upon the longitudinal axis of the body, as long as they live after the injury. In frogs (1) the nerve is exceedingly sensitive; (2) puncture of it produces a remarkable state of hyperæsthesia; (3) the fore-leg of the opposite side is thrown far from the body in the act of extension, (semi-paralyzed and semi-convulsed;) (4) the animal turns or rolls around its longitudinal axis, and generally to the side affected.

Turning and rolling movements are also produced by puncture of the medulla oblongata; and that of one of the halves of the spinal cord, near the medulla, produces turning. The evulsion of the two or three first roots of the spinal nerves also produces turning; and that of the facial nerve both turning and rolling. Finally, (1) turning to the *left* may be produced by a lesion in the immediate vicinity of another which causes turning to the *right*. (2.) A lesion at first producing rolling, may, after a while, cause turning only. (3.) The same lesion may cause rolling on one side and turning on the other. (4.) In animals which turn or roll, certain muscles (and especially of the neck and neighboring parts) are always in a state of clonic convulsion; and on this state these two motions mainly depend. Thus certain nerve fibres, not subservient to voluntary motion, probably rise in different points of the encephalon, and are distributed to the muscles, both of the same and of the opposite side.

Carate, a non-classified Disease of the Skin. By G. VAN ARCKEN, M.D. San José de Cucuta, New Grenada.

To the Editors AMERICAN MEDICAL MONTHLY.—Enclosed you will find a paper from one of my correspondents in Central America, on certain forms of Dermatothia.

Hoping it may contribute to our knowledge of diseases incident to tropical climates, I trust you will give it an insertion in your valuable journal.

Respectfully yours,

NEW YORK, *March 10th*, 1858.

E. H. DAVIS.

The subject of diseases of the skin has been well nigh exhausted by Willan, Bateman, Rayer, E. Wilson, Cazenave, Schedel, Bielt, Plumbe and other dermatological writers. But the disease known in South America by the name of "*Carate*," has either been overlooked, or else has not yet come to their notice. I have not been able to

find the slightest mention made of this disease, in all the works on dermatology which I have consulted.

This has caused me to publish the results of my investigations, hoping thereby to explain as far as possible the nature of this loathsome disease, which is considered incurable by the natives; but which, according to my experience, admits in most cases of a complete cure.

Classification.

The various diseases of the skin, such as they have been described by medical writers, are extremely numerous. Almost every author arranges a system of his own, in which he frequently carries his nicety of discrimination too far. A multitude of names and distinctions is hardly ever of any practical advantage.

However carefully an author classifies the diseases of the skin, arranging them according to their symptoms, the course they pursue, and their various complications, there always remain some affections, for which there is no room left, and which cannot be associated with any class.

Never have I been compelled to appreciate this fact so highly, as when I tried to bring the subject of this treatise under the head of some class of diseases of the skin, or rather to find a name for it. According to its appearance, it might be brought under "*Discolorations of the Skin, or Maculæ*," but *Maculæ* have their seat and cause essentially in the skin, and *Carate* is a constitutional disease.

Some few cases look at first sight like *Roseola*, but *Carate* is decidedly a chronic disease; commences very insidiously, and is never accompanied by any trace of fever whatever.

The blue variety might be mistaken for "*Pityriasis versicolor*," but *Carate* shows none whatever of the symptoms of the scaly diseases; it does not desquamate, and becomes stationary at the end of a few years.

These and other reasons have determined me to put *Carate* down as a non-classified disease of the skin, and also not to change its name, which is composed of the Spanish "*Cara*," which means *face*, and the Indian "*Ate*," which means *look*, giving therefore the complaint in plain English, the somewhat original name of "*Look at his Face*."

Description and Varieties.

By "*Carate*" is understood a change of the skin from its natural appearance to one more or less abnormal in color.

There are three varieties of this disease, namely: the blue, white and rose-colored. The first is never complicated with either of the latter, but the last two frequently coalesce into one.

Blue Carate is the mildest form. It generally attacks persons between 15 and 25 years of age, without any distinction to race or color; commencing with the face, and especially those parts which are but slightly covered with integuments. The discolorations, generally of a leaden hue, may be compared to those which appear after a long-continued internal use of the nitrate of silver.

When the disease first breaks out, the spots are round or oval, but they soon enlarge and become very irregular. From the face the discolorations extend down to all the parts of the neck and chest. The course of the ribs is frequently so distinctly marked, that the patient looks like a Zebra, or "*âne rayé*."

The arms remain generally free, but the hands are the favorite seat of the disease, and upon these it exhibits all shades and hues. The lower extremities also remain tolerably free, excepting the lower third of the *tibia*, which again is a favorite seat of this disease.

This variety sometimes makes its appearance on the *glans penis*, but the female organs remain free from it. Blue Carate appears to attack the male more frequently than the female; at any rate, where it attacks females, it is in a very slight form, and gives way in a few days, under the influence of appropriate medicines.

The second variety, or white Carate, is seldom found in the male, and may therefore be almost considered an especial disease of the female.

It is frequently accompanied by sterility, inflammations of the uterus, of a chronic character, and the various diseases to which the ovaries are subject.

This variety makes its first appearance on the neck and chest, and extends from these over the face and abdomen. It rarely appears on the extremities.

The color is of a dead chalky white, and makes a very disagreeable impression on the spectator. It attacks people mostly from 30 to 40 years of age, and becomes sooner stationary than the blue variety.

Rose-colored Carate is the worst kind, and frequently follows an attack of the white variety, in which case there appears, on the dead chalky spots of the latter, some very minute red points, which gradually enlarge until the whole assumes a pale red color.

Those affected with this disease are mostly Sambos, Mulattoes, half-breed Indians and others of a dark complexion, for which reason the difference of color is the more striking.

This variety always commences first on the hands, extends from these to the face and neck, and then down again over the abdomen.

Attacking both sexes with equal frequency, the favorite seat of this disease is, in the male sufferers, the palmar surface of the hands, and in the female, the mons veneris, labia majora, and inner part of the thigh, where it terminates abruptly, extending only in very few instances to the lower extremities.

Locality—Popular Belief as to the Causes of the Disease.

Although some sporadic cases of Carate or some kindred disease may be found in almost all tropical countries, still its true home is the shores of the rivers Magdalena, Zulia and Catatumbo, especially the latter two, which empty into the lake of Maracaibo.

These rivers, winding their way through immense swamps and lowlands covered with virgin forests, abound in insects of all descriptions and in *miasma*, and effluvia of every possible kind.

Some places on the shores of these rivers are so infected, that it suffices for a stranger to stop a few hours there, to receive the germ of a most malignant intermittent fever, which is very difficult indeed to cure.

The people living in the neighborhood of these rivers, and the boatmen who spend their lives in pulling up the flat-boats and bungoes, are those who suffer almost without a single exception from carate.

Their constant exposure to the inclemency of the weather and the bites of legions of mosquitoes, has introduced among them the popular belief, that carate is produced by the sting of an insect, which they call "*carate fly*;" but it is almost useless to say, that nobody has ever seen this supposed insect.

Some few attribute the disease to a sudden change of the weather, which may indeed be a predisposing cause, if we consider the extreme rapidity with which the weather changes in these localities from a most oppressive heat to the most tremendous cold rain storms.

Others, again, attribute it to eating a certain spotted fish, or living on wild hog's meat; but all this is very far from telling us the true cause of this abominable disease.

Rational Causes and Complications.

The lower class of the people, who live on the northern part of South America, spend their lives in the most abject misery, perhaps more so than in any other Spanish American country.

Without any dwelling to shelter them against the inclemency of the weather, going barefooted and frequently entirely naked, eating nothing but plantains and blackberries, too lazy to keep their bodies clean—they are most pitiful specimens of a degraded and brutified humanity.

They come into the world covered with venereal eruptions; the infected milk of their mothers produces ulcers in their throat and venereal warts on the tongue, and from 12 years upwards, they contract primary syphilis and gonorrhœa.

Among these classes of people there exists a popular opinion about "*venereal humor*," or "*humor galico*," as it is called in Spanish, which may be contracted by over-exercise, sleeping exposed to the rays of the sun or moon, fording a river while perspiring, etc. Any one of these causes, according to their opinion, produces all at once a large amount of the so-called humor in the blood; and when they afterwards contract syphilis or gonorrhœa, they consider this an effort of nature to expel the morbid humor from the system, which must therefore be encouraged.

After this, nobody will be astonished to find in this country hundreds of cases of syphilis and gonorrhœa of ten years' standing or more, which are kept up by their unfortunate owners by all possible means. However much they may be told the contrary, they firmly believe, that if the disease were to be stopped, they would die a sudden death soon afterwards.

The natural consequence of this is, that among a thousand people hardly one can be found whose constitution is not tainted with syphilis.

If, then, we take all this together; the frequent exposure to the very changeable weather, the dirtiness of body, insufficient and unwholesome food, syphilis in all its degrees and varieties, this miasma abounding throughout the country, etc., etc., we have a picture of the people who suffer from carate, and of the rational causes of this loathsome disease, whose dormant germ is stimulated into action by the irritation produced by the sting of legions of mosquitoes.

I have never been able to ascertain whether carate shows any disposition to combine with other diseases; all I can say about this is, that out of four persons affected with this disease who died under my treatment, two died of Bright's disease, and that these two cases are the only ones of Bright's disease which have come under my treatment in this country.

Prognosis.

Carate, although considered incurable by the native practitioners, is by no means so. The blue variety can generally be entirely cured by the application of appropriate remedies in about eight weeks. The other two require, on account of their obstinacy, a much longer treatment. But the complete cases, whether they be congenital or contracted afterwards, are better left alone. For, being subject only to a

partial cure, in which case the natural sambo colors would again appear in spots, this partial cure would produce a state exactly opposite to carate, and perhaps more disagreeable to the eye than the disease itself.

Carate never proves fatal of itself, and cannot be communicated to others. But its predisposing causes may be communicated by parents to their children, who may then contract the disease by exposing themselves to those causes which are calculated to call it into action.

Treatment.

The most effective remedies against this disease are the mercurials, especially when administered in alterative doses. Small doses of the bi-chloride, given in a bitter decoction or tincture, produce admirable results; but its effect must be closely watched.

In the more obstinate cases, the iodides must be resorted to, especially the biniodide, which frequently acts like a charm.

In milder cases, the iodide of potassium in the compound syrup of sarsaparilla, proves very effective. The same may be said of the iodide of iron, especially when combined with rhubarb and extract of dandelion.

Still, in some cases, these remedies are not sufficient, and then the preparations of arsenic must be employed.

External remedies are also productive of good results. In mild cases, the alkalis are sufficient, while in the others the sulphurous baths, or those with bi-chloride, must be resorted to. The diet must in all cases be sufficiently nutritious, and a change of residence to a more healthy and airy country is sometimes necessary.

To give a more correct idea of my plan of treatment, I here annex the descriptions of some cases, taken from my journal.

Case No. I.—Maria B——, 19 years old, blue carate, suffered since her 14th year; menstruation very deficient; occasionally leucorrhœa presents itself, but the neck of the womb is not ulcerated.

May 15th.—Ordered three successive purges of blue pill and colocynth.

May 20th.—Alkaline baths and iodide of iron, with aloes.

June 7th.—Baths with sulphuret of potash; internal medicine continued; exercise on horse-back. The disease commences to give way.

June 18th.—Vaginal injections with acetate of zinc. Bathing and internal medicine continued.

June 29th.—Small doses of bi-chloride of mercury, in compound tincture of cinchona.

July 16th.—The patient is improving; leucorrhœa has not returned, medicine continued.

July 28th.—No trace of disease; the general health has improved very much; patient discharged.

Case No. II.—John S——, 31 years old, suffered already 8 years from blue carate. Has had a severe attack of gonorrhœa; the left testicle is swollen and very tender to the touch.

April 6th.—Tepid baths; mercurial ointment to the testicle; one scruple of iodide of potassium daily.

April 15th.—Continued.

April 24th.—Baths with sulphuret of potash; the testicle is well.

May 10th.—Iodide of potash augmented; nutritious diet.

May 21st.—Small doses of bi-chloride in tincture of gentian.

June 4th.—Continued.

June 15th.—Iodide of mercury $\frac{1}{8}$ grain daily, in pills.

June 29th.—Treatment continued; the patient is almost well.

July 12th.—Patient discharged.

Case No. III.—William M——, 28 years old, white carate of 3 years' standing; no complication whatever.

April 21st.—Sulphurous baths; $\frac{1}{4}$ of a grain of bi-chloride of mercury daily.

May 2nd.—Continued.

May 13th.—Bathing continued; bi-chloride increased.

May 25th.—Treatment continued.

June 8th.—Medicine increased; the disease begins to give way.

June 12th.—Salivation commences; medicines suspended; gargles with tannin.

June 18th.—Medicine resumed.

June 28th.—Treatment and sulphurous baths continued; patient improving.

July 10th.—Patient discharged.

Case No. IV.—Casimira A——, 16 years old, suffered about three years from white carate; the disease commences going over into rose-colored carate; scrofulous constitution.

August 2nd.—Sulphurous baths; after each a friction with aromatic spirits; cod liver oil and iodide of iron daily.

August 15th.—Cod liver oil increased; the other medicines continued.

August 24th.—Half a drachm of mercurial ointment to be rubbed every evening on the soles of the feet.

September 6th.—Continued.

September 14th.—Twice daily one-sixteenth of a grain of bin-iodide of mercury; patient improving.

September 27th.—Bin-iodide continued; three times every week a tepid bath, with one drachm of bi-chloride of mercury.

October 8th.—Treatment continued; patient rapidly improving.

October 20th.—Cod liver oil increased.

November 6th —Discharged.

Case No. V.—Louisa G——, 34 years old, suffered since her youth from rose-colored carate; evinces frequent lancinating pains in the left breast; mother died of cancer of the womb.

January 2nd.—One scruple of potash daily; sulphurous baths.

January 15th.—Iodide increased.

January 28th.—No effect whatever; baths, with one drachm bi-chloride.

February 5th.—Salivation; medicines suspended; astringent gargles.

February 12th.—Distressing cardiac symptoms; demulcent drinks, with small doses of opium.

February 18th.—Three times daily ten drops of Fowler's solution; baths, with four ounces impure carbonate of soda.

February 27th.—Fowler's solution increased; patient improving.

March 8th.—Takes now three times daily twenty drops of Fowler's solution.

March 25th.—Every night and morning five drops of Donovan's solution.

April 10th.—Medicine increased. The patient is now improving rapidly.

April 22nd.—Donovan's solution increased to fifteen drops twice a day.

May 8th.—Medicine gradually withdrawn; patient almost cured.

May 20th.—Discharged. There is no trace whatever left of the disease.

Case No. VI.—Lucy S——, 28 years old, for a number of years affected with red-colored carate, which is so extensive as to make her look almost like an albino.

May 12th.—Baths, with bi-chloride; afterwards frictions with aromatic spirits; twice daily one-sixteenth of a grain of bin-iodide of mercury in pills.

May 25th.—Continued.

June 6th.—Bin-iodide increased.

June 14th.—Salivation; gargles with Labarraque's solution.

June 17th.—Better; gargles continued.

June 24th.—Bin-iodide taken up again in small doses; alkaline baths.

July 5th.—Salivation commences again; mercury laid aside.

July 12th.—Iodide of iron six grains daily, combined with extracts of dandelion and rhubarb.

July 14th.—Discharged during the night from the bowels an immense quantity of black fetid matter, which looked very much like tar.

July 20th.—Rapidly improving; baths continued.

July 28th—Iodide of iron increased.

August 15th.—Improving: exercise on horse-back.

September 5th.—Discharged.

The Jewish Circumcision before a Medical Tribunal. By Dr. JOSEPH HIRSCHFELD. Translated from the *Oesterreichische Zeitschrift für Practische Heilkunde*, Nov. 27, 1857, for the MONTHLY. By J. V. L.

A question in Jewish theology has lately been discussed, the decision of which properly belongs to medical surgery. One Dr. Levit, who, as an Israelite, refused to circumcise his child, excuses his refusal among other things, on the ground that the operation is not wholly without danger—that he regards it as a severe injury—as dangerous to life, and even fatal.

It will, therefore, be interesting for the public, and especially for the physician, to bring this opinion of Dr. L. to the proof, and simply to inquire whether the operation of circumcision is shown to be dangerous to life, according to the prognosis given of it by any authority. Upon this point it will be permitted me merely to show that Balassa, Benedict, Dumreicher, Langenbeck, Middledorpf, Pitka, Remer, Schuh, and the other Coryphei of operative surgery, whose clinics I have visited, and in some of which I had the opportunity to stand as pupil, in no manner consider or point out circumcision as dangerous, much less fatal.

The circumcision of the Jews differs little from circumcision in simple or complicated phymosis. The child is bandaged tolerably tightly from the symphysis to the shoulder, and from the middle of the thighs to the ankles, and then laid upon the lap of its godfather, seated. The operator, with the thumb and forefinger of the left hand, lays hold of the prepuce, and brings the portion to be removed within the

cleft, two lines broad, of a silver instrument similar to a mouth spatula, and when the member is brought in a perpendicular position, seizes the inclosed foreskin, and with a single stroke of a double-edged bistoury, cuts it off close to the plate. With the thumb nail expressly sharpened for this operation, he tears as quickly as possible the inner membrane of the foreskin up to the corona. The bleeding is stopped by cold water.

A primitive and unrefined custom of spiriting red wine several times from the mouth, and sucking up the blood at successive draughts, is now only kept up by a few very orthodox common practitioners. The hæmorrhage having ceased, the wound is by some operators sprinkled with Sem. Lycopod; by others, the glans and the cut surface are covered with a strip of linen, spread with fresh butter.

Under Prof. Pitha, as house-surgeon, I had a patient, 18 years old, on whom circumcision had been performed, whose wound healed in eight days. With children this is accomplished in from 24 to 36 hours, from the fact that the external and moral agencies, so powerful in adults to disturb the healing process, are with them wholly wanting. If in Dr. L.'s practice of 16 years, there happened six cases in which the operation resulted fatally, it may be well asked if it were due to the gravity of the operation, or the unskillfulness of the operator. Dr. L. will not dare to instance blood-letting as an operation dangerous to life, because here and there an unskillfully performed venesection is followed by fatal results. How lame, therefore, are all such arguments of Dr. L., is evident enough to every practical physician! As an invincible fact, moreover, stands out above all, the extremely favorable statistics of mortality of Jewish children in the first year of their life. According to E. Glatters' Reports, (the life-chances of those of the Jewish and Christian profession contrasted. Biostalistic Studies. Wetzler, 1856,) during a period of 32 years' observation in Wieselburger County, Hungary, there died of a thousand, in the first year of their life, of Jews, 44.1; of Germans, 123; Hungarians, 167; and Croats, 146.9. From these data, it appears clearly evident that circumcision exercises on the one hand no injurious influence on the ratio of mortality of Jewish children during the first year of their life; so on the other, that it is greatly in its favor, that it not only gives no predisposition to those pernicious diseases of later life, which, even when concealed, so deeply affect the human organism, but should be recommended authoritatively as a preservative against them. Upon this point we can adduce, among

others, the statistical reports of Prof. Hutchison, (*Med. Times and Gazette*, 1856.)

In an article in the *Berlin Allgem. Medic. Central Zeitung*, entitled "Upon the Influence of Circumcision in the Contraction of Syphilis," are these words. The idea has very often been expressed that circumcision, inasmuch as it brings about an anatomical change in the male genital organ, by converting the membrane covering the glans into a resisting epithelial coat, the disposition to contract syphilis is lessened.

Every physician having any Jewish patients, knows that syphilitic ulcers rarely occur among them—that for the most part they run their course more rapidly, and are seldom followed by secondary phenomena. Especially has he, with them, from the nature of the case, nothing to do with that dangerous chancre which, located on the inner surface of the foreskin and removed from view and treatment, easily increases, eats its way deeply in, becomes indurated, and is followed by the most unhappy secondary and tertiary symptoms.

Hutchison has now, for the first time, so far as we know, made the attempt to give in precise terms the comparative frequency of syphilis among Jews and Christians. And by statistics, to prove the correctness of what hitherto has been accepted *à priori*.

Dr. H. is physician to a London Hospital, which, connected with a Dispensary, is located in a portion of the city inhabited for the most part by Jews. Frequent application is made by them for Hospital and Dispensary aid.

The total number treated for syphilis in 1855, amounted to 330—of whom 272 were Christians, and 59 Jews. Of the former, 107 for gonorrhœa, 165 for syphilis. Of the latter, 47 for gonorrhœa, and 11 for syphilis, which gives the proportion of gonorrhœa to syphilis among Christians, as 0.6:1, and among Jews 4.3:1. The proportionally great frequency of gonorrhœa among Jewish patients (they furnish almost the half of all the collected cases,) shows that the difference in the total of syphilitic patients is not to be accounted for by a greater reserve on the part of Jews to apply for medical aid.

During the above period, there were treated in the same Hospital, 252 children under 5 years of age, 179 of whom were Christians, and 73 Jews. Of the former 27, and of the latter 3, were unaffected with congenital syphilis. The number of females treated for venereal diseases amounted to 97, of whom 92 were Christians, and 5 Jews. Of the former, 61 were treated for syphilitic ulcers. Two-thirds of the Christian patients were married, and in all probability received

the infection from their husbands. The proportional frequency, so favorable in the case of Jewish women, can partly arise from their greater morality; from their domestic life being based more upon ethical principles, but more especially from this, that the diseased Jewish husband is not in so favorable a condition to conceal and communicate his disease.

In view of this fact, the old Mosaic rite receives a confirmation, perhaps stronger and more binding upon our age than that in which the Legislator lived; and, from a hygienic point of view, the general introduction of circumcision would be founded more in reason than its often talked of abolition.

Embalming as carried on by the Indians of America. From the French of M. ALVARO REYNOSO. For the MONTHLY.

The methods employed by the Indians to preserve the dead can be considered as of three kinds; the bodies were either skinned and then *stuffed*, or they were *embalmed*, or simply *dried*.

1. Some of the North American tribes commenced the operation by skillfully removing the skin from the corpse, having made an incision the whole length of the back. They picked the flesh off from the bones with care, without touching the ligaments, so that the skeleton might remain entire. The bones, after they had been dried for some time, were again placed in the skin, which had been carefully prepared and softened, and the latter being filled up with fine sand, was sewed up again. (Lafitteau, *Mœurs des Sauvages Américains*, II, 389.) Las Casas says, that in a village of the Province called Cali, there existed a very tall wooden house, covered with straw, having one door and four windows. In the interior of this house, at a certain distance from the ground, many human beings were arranged after a certain order, on a large board which extends across. To prepare these bodies they had simply filled the skin with ashes, and added figures modelled in wax, with their features so well reproduced that one could have believed at first sight that the bodies were alive. (Las Casas. *Apologetica Historia de las Indias*, 872.) These two methods are rather processes of flaying than embalming.

2. In Peru, an odoriferous wood was burned before the idols. When the bark of this tree was removed, there flowed a liquid with such a penetrating odor, that it soon became insupportable. Bodies varnished with this liquid, and in which a certain quantity was introduc-

ed by the mouth, never putrified. The custom prevailed of placing in the temples some bodies thus embalmed, or skins that had been submitted to the same process.

3. The method next to be described, was based on the desiccation of the bodies, which was effected not by means of solar heat, but of fire. Las Casas, in reporting the interview of Vasco Nunez with the King of Comagra, in Darien, tells us that in the palace of that king there was a large room containing many dried bodies, which were suspended by means of cotton cords, and covered with rich coverings also of cotton, interlaced with trinkets of gold, pearls and other stones regarded as precious in that tribe. These were the bodies of ancestors, who were considered as the tutelary divinities of the fire-side. (Las Casas, *Historia general de las Indias*, 111, 146.) Whilst in other countries, says Las Casas, bodies are preserved from putrefaction by balsams and other aromatic substances, the Indians obtain the same results by means of desiccation with fire. He describes the operation thus: after having wept over the deceased, they envelope the body in cotton coverings, which are bound with cords; then they place it on a grate over a slow fire, "to drive off all the moisture contained in the body," and in this way complete desiccation is accomplished. The grates were made of thick canes. In the Kingdom of Popayan, instead of placing the dead body on a grate, it was suspended in a hammock over the fire during the time required for the desiccation. These quotations have never been cited before, as Las Casas' manuscripts have not been widely circulated, and those persons who possess them have not paid attention to these details.

We might further cite the testimony of Oviedo, (*Relacion sumaria de la historia natural de Indias*,) and of Lopez de Gomara, (*Historia de las Indias*,) who describe the proceedings in desiccation, more or less perfectly, and on the whole similar to those we have learned from Las Casas.

I believe that these processes could be applied, if it should be necessary to preserve a large number of dead bodies without enbalming them. They could be dried rapidly by placing them in a heated chamber, a current of warm air being driven over them by means of a ventilator.

M. Gay, in his report, defends Gonzalo Pizarro from the charge of having profaned the sanctity of the tomb of the Inca Viracocha. It affords me pleasure to cite an authentic witness in support of this opinion. In the XLII volume of a collection of unedited documents on the History of America, made by Munoz, and preserved among the

manuscripts of the Academy of History, at Madrid, there is a report presented by Ondegardo, on the tributes which the Indians paid to their sovereigns. Ondegardo says, that at Cuzco was found the body of the first Lord of Cuzco, whom every one considered as the first who had conquered and taken possession of this country. This body was embalmed and in a state of perfect preservation. By counting the number of Incas who had succeeded him until the arrival of the Spaniards, the body was estimated at 300 years old. Ondegardo also says, that he found the body of the Inca Yupangi embalmed, and at his side the symbols which made known his valor, as well as the festivals and religious ceremonies of his day.

Before closing this note, I wish to make two general observations on natural mummies. I believe that, up to this time, attention has been too exclusively directed to the *physical* properties of the soil in which natural mummies have been found, and that we have neglected to analyze *chemically* the soil with the design of knowing if there existed in it any salts capable of preventing putrefaction, which could penetrate the dead body and preserve it. Further, and I dare scarcely hazard the conjecture, I believe if certain bodies resist putrefaction better than others, although they may be found exposed to the same conditions, that the difference can be explained, either by the regimen that has been observed through life, or by the medicaments which have been employed, and above all, because they may have been more readily desiccated. I could cite, in support of this opinion, many facts, but I prefer to bring forward but one, which, on account of its historic interest, unites the advantage of authority above suspicion, to ready verification. The body of Charles V., which had not been embalmed, still remains in the Pantheon of the Spanish Kings, in the Escorial, and is in better preservation than all the rest whom they have endeavored to preserve through divers plans. Under Philip IV., in 1654, eighty-six years after the death of the emperor, the body was exposed to the public, and the people attested its preservation. Another contemporary relates that independent of the nose, the whole body, even the beard, was so well preserved that the physiognomy of the king was easily recognized. The flesh dry, and the body seemed thinner than natural; and a circumstance worthy of remark was noticed, that the bier of wood on which the body lay was entirely destroyed. Last year it was again attested, in the presence of many respectable persons, that the body of the emperor was still in a state of perfect preservation.

Report of a case of Cancer of the Œsophagus, occurring in Bellevue Hospital. By J. J. CAMPBELL, M.D., late House Surgeon.

D. G., aged 57, a native of Scotland, good constitution; a baker by occupation; was admitted into the hospital August 28th, and gave the following history: He says he has always enjoyed good health, with the exception of a slight cough at times, and that he has never been either fleshy or strong. He knows of no hereditary predisposition. Never has indulged much in liquor, although he was in the habit of taking a little every day, for many years. Never has swallowed any corrosive material, and knows of no cause for the present difficulty. About four months ago he began to suffer from difficulty in swallowing solid food, and this difficulty rapidly increased until two weeks since, when he was unable to get anything into his stomach. He says all his food and drink stops at a point opposite the lower border of the sternum. From two to three minutes after swallowing solids or fluids, they regurgitate mixed with ropy mucus, which is sometimes tinged with blood. He also attempts to vomit at these times. When admitted he was very weak, much emaciated, and was unable to get any nourishment into his stomach. A flexible probang was introduced into his œsophagus, and stopped opposite the lower margin of the sternum. There was no evidence of sacculation. On auscultation, no aneurism could be detected. In the apex of the right lung a cavity was found.

As he was unable to get any nourishment by his stomach, beef tea injections were employed. He could not retain more than three pints of it a day. Brandy was added to the beef tea after a few days.

He continued growing weaker and weaker, until he died, Sept. 17th. No marked suffering or struggling before death.

Autopsy nine hours after death. The skin presented the same pale or sallow hue that it did previous to death. The left lung was perfectly healthy, but the right one was firmly adherent to the walls of the chest, and contained hardened tubercles and a tubercular cavity about the size of a hen's egg. The heart and aorta were quite healthy. The femoral and radial arteries were ossified in patches. The œsophagus, stomach and duodenum were removed and examined. The lower three inches of the œsophagus formed a solid mass of scirrhus hardness. The stomach was small, and could not contain more than a pint of fluid. Its pyloric orifice was very well marked by a hard thickened ring. On placing the duodenum on a Croton jet, and the water allowed to flow in slowly, the stomach became distended, but none of the water escaped. The œsophagus was then placed on the

jet, but none of the water would flow through. The water was then let on with full force, and the œsophagus bursted longitudinally, commencing at the diseased point and extending two inches upwards. The diseased mass was perfectly circular, and about three-quarters of an inch in diameter. On cutting into it, its outer surface cut like a fibrous tumor, and in its interior it was soft, having a dirty grayish appearance. It was pervious to a point two and a half inches above the cardiac orifice of the stomach. The œsophagus was not dilated more than usual above the point of disease.

The prostate gland was normal in size, and perfectly healthy. All the organs were healthy, but quite anæmic.

Report of a case of Castration for Tubercular Disease of the Testicle, occurring in Bellevue Hospital, in the service of Dr. Jas. R. Wood, Visiting Surgeon. By J. M. FARRINGTON, M. D., House Surgeon.

Charles G., aged 26, a native of Scotland, a farmer; single, of delicate constitution, was admitted in hospital Nov. 14th, 1857, with tubercular disease of the right testis.

When a child he had scarlet fever, and at the age of 16 the small pox, from each of which he recovered, without the occurrence of any unpleasant sequelæ, excepting that an inflammatory affection of the left eye followed the attack of variola. He has been a victim to the practice of masturbation since the age of 12. He contracted a chancre when but 14, which was followed by constitutional syphilis.

A few months ago the right testicle began to enlarge slowly, and continued to do so until six weeks since, when an abscess formed in the organs. This opened spontaneously in 9 or 10 days, and discharged about an ounce and a half of pus. Ever since it opened there has been going on a gradually increased protrusion of a fungoid substance, which has now attained the size of a moderately large plum. He has a cough occasionally, but it is not persistent. He has none at present, and on examination of the chest no physical signs of disease were detected.

He is pale, somewhat emaciated, small in size and stature, and never weighed over 112 lbs.

His mental condition is dull, and his habit slovenly. The circulation is sluggish, the pulse 60.

On the 21st, the diseased testicle was removed by Dr. Wood. An

elliptical incision extending from the external abdominal ring to the lower part of the scrotum, and including the diseased and protruded mass, was made. The dissection was then proceeded with; the adhesions between the gland and scrotum were firm; the organ was everted, the spermatic cord divided, and its vessels secured by ligatures.

A few hours after, the edges of the wound were approximated by the silk interrupted sutures, but the inflammation and tumefaction of the parts were so great that most of the sutures became detached by ulceration within 36 hours. They were inserted again, and the third time with the like result, and it was then deemed useless to employ them further until the inflammation and swelling should have subsided.

A lotion of acetate of lead and opium was kept upon the parts. The ligature attached to the spermatic artery came away on the 17th day. The inflammation subsided, the suppuration diminished, and the wound began to fill up finely by granulation, so that no further attempt was made to bring the edges together by sutures.

Granulation and cicatrization proceeded finely, and the patient rapidly improved in appearance, in every respect; so that, as Dr. Wood once remarked of a similar case, "he was an *altered* man indeed." He gained flesh and color, and his mental condition was unquestionably improved.

He was discharged Dec. 31st, 40 days after the operation, entirely cured.

REVIEWS AND BIBLIOGRAPHY.

A Manual of Medical Diagnosis, being an Analysis of the Signs and Symptoms of Disease. By A. N. BARCLAY, M.D., Cantab et Ed. Reprint. Philadelphia: Blanchard & Lea, 1858.

The author, in his Preface, apologizes for adding another to the many Manuals already in the hands of students, but finds a sufficient reason for his publication, in the wish which has been expressed in his hearing, for a guide to the systematic investigation of cases in the wards of the hospital.

The obvious utility of works of this character makes it a matter of surprise that they are very rare. A reviewer of Rostan's work in 1827, called attention to the fact, that but one work on this subject, *Diagnosis*, existed in the English language, at the time of his writing. In the course of kindred investigations, we have had occasion to look over book-shelves, and through many volumes of periodical literature, in search of treatises and essays on Semeiology and the art of Diagno-

sis; and note it here as a fact of bibliographical interest, that hardly any subject connected with practical medicine, directly or remotely, has been so imperfectly treated in the records of the last century's contributions to the literature of our science. When we have enumerated the works of Dreyssig, Küttner, Friedreich, Wenzel, Richter, Nasse, Siebert, Sucknow, Schiel, Blumenthal, Rostan, Piorry, Dubois d'Amiens, Valleix, Chomel, Bouchut, Oppolzer, Williams, Marshall Hall, Copland, Bartlett, Reynolds, Barclay, and a new translation of Aretæus, very few special treatises, or papers, on Diagnosis remain. It may be added, as not without interest, that the first 60 vols. of the Archives Générales do not contain a single article on Diagnosis; that the Edinburgh Med. Essays, 6 vols. [1731-1771]; Essays Physical and Literary, 3 vols. [1754-65]; Medical Commentaries, 20 vols. [1773-1795]; Annals of Med., 8 vols. [1796-1804]; Edinburgh Med. and Surgical Journal from 1804, contain only five articles on the general subject of diagnosis, of any pretensions; two of which are by Dr. Abercrombie and Dr. Marshall Hall. The 57 vols. of the Med. Chir. Journal, and its successor, Medico-Chirurgical Review, contain only two—one a review of Rostan's work, and one of Dr. M. Hall's. In 48 numbers of Forbes' British and Foreign Review there are but 3 or 4 articles. Until Schill's was translated, no work on Semeiology existed in our vernacular. From which facts, gleaned from the literature of Germany, France, England and Scotland, it may be inferred that medicine has heretofore been taught in the scholastic and scientific method, beginning with the organic changes, and working out towards external manifestations or symptoms. To the practitioner, disease presents itself as an outside fact. It is first to be seen and heard. The reasoning comes afterwards, in order of psychological phenomena. And it is from this direction that Dr. Barclay presents disease to us.

Books like the one before us, and the little Manual lately published by the London Medical Society of Observation, indicate the growth of Clinical Medicine, and have grown out of its necessities. Dr. Griffin, in his self-defending report of the very unlucky case of Mr. Augustus Stafford, makes the following *naïve* remark: "If every man standing at the bedside of a patient, could have his reasoning on the case illuminated by the light of a post mortem examination, I believe there are numbers of cases in which treatment would very seriously be modified." Between the bedside of the sick and the post mortem table rushes a dark current, which can best be bridged over when diagnosis has laid the foundation stones.

The succession of mental processes which engage the medical bibliopholist when he is turning over Lebert's folio plates, is reversed when, as a thoughtful, conscientious, sympathetic therapist, he stands by the bedside of his sick friend. At home, in his study, with necroscopic scalpel in hand, he reasons from a localized cause out to general and diffused effects; and so does he when he follows the teachings of the schools. And this, at some time or other, he must needs do; but in every case of disease under his own treatment, he must reverse the glass thus: John Doe stands for dulness under the right clavicle—lung tissue in the field of the microscope—tubercular *stuff*—a cavity in the right apex, partly lined with pyogenic membrane—large greasy liver, &c. &c. Richard Roe represents a cheerful, pink and white young gentleman, with fine hair and glistening eyes, who tries to go about his business, but wonders why his hands are hot, and why he coughs, and why he wakes up before daylight, cold and sweating. Problem, to reconcile John and Richard.

We find no science resembling so much that of medicine as Geology. The phenomena, geological and pathological, are apprehended from the same two divergent directions; we desire only to point out one set of common facts as examples. The Palisades, it is said, indicate an eructation from the inflamed belly of mother earth in the days of her youth. That is one way of commencing an investigation; or, beginning at the other end, you state it thus: the central heat-forces in process of time, with alternating radiations, must produce cracks and bulgings, palisades, old men of the mountains, &c. In the same way we say, paralysis indicates destruction of nerve-tissue, more or less, complete and permanent. The escape of blood from the pia mater meshes produces anæsthesia and spasm, loss of appetite, &c. The latter form of presenting the fact is more proper; to the clinical student the former is the more presently useful and handy. We are ready to acknowledge the necessity of books which so turn the matter round, notwithstanding the objections which Louis has been said to offer against them; but even he would only say of diagnosis what he said of pathological anatomy, "*quelle ne me parait pas devoir constituer actuellement une science à part, pas plus que le pronostic.*" [Mem. de la Soc. Med. d'Observation, v. 1, p. 19.] To our mind, the necessity of books having the aim which our author takes is no longer matter of dispute. Something might be said concerning the natural and necessary limitations to their usefulness; for it is not to be doubted that one may have at hand all the means and possess all the knowledge for apprehending and interpreting the distinctive signs of a spe-

cific change of structure, and yet fail to read aright its relations, and so go wrong in matters of diagnosis and therapeutics. The symptoms are but notes and phrases, the whole disease is a dirge. The possession of all the tools of one's trade, and facility of manipulation, do not without fail ensure a good workman. One may be a true draughtsman, or a choice colorist, and yet having no personal thought or feeling that wants its way, be no artist.

Most men study some one or more branches of medicine, and drop them before they have learned the usefulness of their secrets, as they drop Greek and German before they have gone far enough to feel the nice beauties of their literature.

We may be able to trace the Vidian nerve, collect a bowl of starch from degenerate brains, a modicum of sugar from the liver, and go straight to the fourth ventricle to get it; be able to demonstrate crystals of excretine and hæmatoidine; keen to detect all or any one of Siebert's six groups of physiognomical *rugæ*; follow Pfaff and Ahrens in determining the electric relations of a patient to that of the earth and atmosphere; we may be alertly alive to the latest bin-auricular stethoscopic phenomena; may see mysteries written in urinals, and wonders, not to be told of, at the little ends of specula, and after all be utterly unable to see the good of them, and incompetent to turn the incomplete knowledge to any substantial profit. No fact stands alone in the world; and pulmonary crepitus, urinary albumen, muscular spasm with all the rest, have past and future relations, which must be known to make physical signs of any account.

It may not be altogether unprofitable to follow this point to the end. The knowledge of a case of disease, complete and *exhaustive*, as the phrase is, is reached by four stages:

First, the examination of the patient as to his history, &c.

Second, " " his subjective symptoms.

Third, " " objective phenomena.

Fourth, the interpretation of the facts obtained by the preceding process.

These proceedings are quite independent of each other, and widely different in character, so that the ability of carrying them all on equally well is rarely possessed by any one. It is apparent that,

The *first* demands the frank, pleasant manner which disarms fear and wins confidence, associated with keenness to strike a scent, and perseverance to follow a trail.

The *second* requires a patient, minute questioner, but skeptical listener; one acquainted with the laws of evidence, who weighs, filters, and winnows.

The *third* puts in requisition great knowledge, self-cultivation, keenness, patience, accuracy, self-confidence, tempered with questioning doubt; facility in the use of all the armamenta, spirometer, pleximeter, specula, stethoscope, microscope, chemical reagents, &c.; persistence in accomplishing measurements, palpations, digital examinations, inspection of excreta, &c.

The *fourth*, which is the crowning fact that answers the *cui bono* inquisitor, demands first of all brains, and brains of particular mould and finish—brains which, large enough to be self-nourishing, are not too large to grow, and are impressible by fresh experiences.

Every one can find examples of those who limit themselves to one or two of these processes of investigation; and most men start professional life with an exaggerated estimate of and excessive trust in the diagnostic means enumerated in class third. And this is all very well. It is the young man's business to understand and use these means. If he don't do it when he is young, be sure he will never do it at all. But some good friends ought privately to say to him, "Galen, my boy, brandishing forceps is not an essential element in obstetric processes; children are now and then born alive without the assistance of that instrument, among people of a low grade of civilization; now, put up your weapon. And it is not at all necessary that you should be forever foggy over your microscope; get all the facts you can, by whatever way is best, and then sit down, and do a little hard thinking, or else you will have used your eyes and ears and battery of instruments in vain."

It has been said that one may be quite successful if he does not push his investigations beyond the first step. Surely, friendliness and frankness should look out of a doctor's eyes; and if the valetudinarian needs nothing more, it's all the better for the valetudinarian. But good nature and pleasant manners are only vehicles by which a doctor gets about. The business of his life demands sterner stuff.

* * * * *

Dr. Barclay, while serving as Medical Register of St. George's Hospital, (to our mind one of the most progressive of the London schools,) had opportunity to qualify himself for the task which he has undertaken in the work whose title stands at the head of this article. In this office twelve thousand cases of disease passed under his notice for detailed registration and classification.

In the form of a schedule he gives, as the result of his experience, "the outlines," as follows, "of the particulars which a clinical clerk ought to attempt to enumerate in the history of each case which he records," thus:

Address, name, age, civil state, occupation. In females, number of children, date of last pregnancy, menstrual function.

History:

- a. Of present attack.
- b. Of previous illness.

Present state:

1. General symptoms:
 - a. Skin, as to heat and dryness.
 - b. Pulse, as to frequency, force, and fullness.
 - c. Tongue, as to coating and moisture.
 - d. Bowels and Urine.
 - e. Appetite and thirst.
2. Appearance:
 - a. Size.
 - b. Aspect and expression.
 - c. Color.
3. Position and posture:
 - a. In bed.
 - b. Out of bed—gait and manner.
4. Sensations—survey of regions and organs.
 1. Innervation:
 - a. Brains.
 - b. Nerves.
 2. Respiration.
 3. Circulation:
 - a. Heart.
 - b. Blood vessels.
 4. Digestion:
 - a. Assimilation.
 - b. Excretion—character of stools—analysis of urine.

A reviewer of Dr. Siebert's work (Forbes's Rev., Oct. 1845) quotes the following heads of a masterly detail of the facts in a case of heart disease. Firstly, the man's medical biography; the commencement of the disease, then its course hitherto, with the patient's present condition, under the subdivisions of external appearances, symptoms implicating the circulation, respiration, digestion, and feelings of the patient. The whole phenomena of the disease being ascertained, they are next studied, and their relative value estimated. The anatomical signs of hypertrophy are compared with the functional disturbance in the heart's action, and these with the other symptoms, the objective and subjective, the local and positive, the idiopathic and sympathetic, deuteropa-

thic and tritopathic, &c. The second step is the arrangement of the symptoms into a known form of disease. The last step is the consideration of the individuality of the patient, the amount of health remaining to him, and the relation of the disease to the weather, and the epidemic "genius."

The following extract from Suckow's *Grundriss der Speciellen Semiotik*, Jena, 1838—and properly enough styled by a reviewer of the work as Babylonish—is an example of diagnostic refining, which is anything but clarifying: "*White tongue*—indicates catarrh, aphthæ, sore of the mouth, tobacco smoking, ptyalism, gastricism, scrofula, rickets, defective nutrition, long confinement, insanity, induration of the abdominal viscera, diseases of the heart, peritonitis, hepatitis, splenitis, ulcerated intestine, induration of the lungs, gastric, rheumatic, catarrhal, nervous, mucous fever, hæmorrhoids, hypochondriasis, phrenitis, meningitis, inflammation of the chest, ague with gastric complication, dyspepsia, phthisis."

Clearly, to Suckow might rightfully be applied the epithet which Coleridge mentions as well deserved by Kant, "*Der alleszermalmende*"—the all-to-nothing crushing—for Suckow goes on in that way to the end of the chapter.

In the introduction, the author declares himself in a few well-placed sketches in outline, by which we can judge of his views and stand-points. Though the generalities are sufficiently commonplace, they effect us pleasantly, and prepare us to think well of the writer. Thus the "ultimate object of study in all departments of medicine is the relief of the patient by the successful treatment of disease." The theory of disease combines, by the aid of experience, the perversion of function with the change of structure; * * * "but it also teaches that there are other and more hidden elements of disease * * which have yet evaded our most diligent search." Diagnosis is the hyphen which unites semiology and nosology; and the only legitimate introduction to the wards of a hospital.

The following opinions we hold to be of such import that we transcribe paragraphs somewhat too lengthily for this part of our subject:

"If it were true that the symptoms by which a disease is recognized were analogous in all cases, it would be enough that the student should commit to memory the summary contained in systematic treatises, when he would be at once in a condition to pronounce an opinion upon any case put before him. But this is far from being the case. The idiosyncrasy of the individual, including in this term all the differences exhibited by various persons in their susceptibility to the influence of the same noxious substance or emanation; and not less than

this, the various power of the causes of the disease, which, though unproved, and perhaps incapable of proof, we cannot deny, exerting an influence now more potent, now weaker; the combination of these two circumstances leads to an almost endless variety in the outward manifestations of their operation on the human frame."

This we hold to be sound doctrine, and one to be iterated, notwithstanding Maclise's grotesque criticism of similar opinions, thus: "for of a certainty this can't be that, since that is dappled, whereas this is striped; nor can their species be the same and one, though they be puppies of the self-same litter."

According to the true principle of diagnosis, having associated certain phenomena observed through life with particular lesions found after death, we learn to group symptoms together, and apply to them a scheme which shall in some way account for their existence. We gather evidence in accordance with the best method we have at command, and so conduct our investigation as to lead ourselves right, and impress our patients with confidence as to our ability to find the right track and keep it. We must have accurate knowledge of the theory of disease; must not attach too much value to signs regarded as pathognomonic; must not trust too much to one symptom, or one group, and be ready to discard an hypothesis founded in insufficient premises, whenever new symptoms shall come to light on subsequent examinations, because diseased action in the body is often very complex, and the phenomena present may not be all reducible to the results of one form of disease, or a morbid condition of one set of organs. Before all things, the general strength of the patient must be borne in mind. It is not enough to know the disease; but, as Chomel always says in his introductory, the degree of resistance which the patient interposes is the main thing in determining the result. To discover inflammation in every sickness, and then proceed to fight inflammation, in Don Quixotte style, is ridiculous in the first party, and lamentable for the second. Such doctors spend their lives in treadmills, if they don't get carried round on windmills.

In chapter 1; Dr. Barclay treats of the method of diagnosis, in the course of which he gives a plan which he has found serviceable in making available notes of a large number of cases. Having said that the student, when introduced to the bedside of the patient, should carry in his mind a certain definite course of inquiry, he gives advice so useful that we must save space for it.

"The student will do well to commit to writing the result of his inquiries. There is no means nearly so successful in giving system and correctness to his investigation; in no other way can he acquire the

habit of observing all the phenomena of any given case, or tracing their bearing on each other; and nothing will so effectually teach him to mark correctly, and estimate justly, each successive fact elicited by his own inquiries, or volunteered by the patient. From the whole evidence, thus faithfully committed to writing, can he alone hope to form a correct diagnosis. His written description ought to be a full and adequate account of all that he sees, hears, feels, or even smells, and must never embody any conclusions he has formed from them until the whole inquiry has terminated. Thus, to take a prominent example: In examining the lungs, however distinct he may fancy the evidence of a cavity to be, he ought never to put down in his notes "cavernous rales," or "cavernous breathing," but what he actually hears—gurgling sounds, loud or very loud, blowing, expiratory breath sound, &c.; everything, in fact, just as it is heard. As he proceeds, it is quite possible that other signs or symptoms may be observed, so inconsistent with the hypothesis that it would be quite unwarrantable to assume the existence of a cavity—a conclusion which ought only to be formed from the coincidence of several other phenomena."—p. 28.

No thoughtless wastefulness is more improvident than that of which physicians of large but *unrecorded* experience may justly be accused. Had all the observed facts, or only the noteworthy facts, been made matters of record, the rebuke of the author of the *Advancement of Learning* would not have been deserved at the time when it was written. But *væ robis* it is just as true now as ever it was. When Bacon said, "Medicine is a science which has been more professed than labored, and yet more labored than advanced, the labor having been rather in circle than progression," he said a true thing which will never cease to be true till this waste of unnoted fact and commentary has ceased.

Chapter II treats of the *duration and sequence of phenomena*, and gives opportunity for the following remarks concerning the valuation of pain as a sign of disease:

The important bearing of the duration of pain will fall especially under consideration with reference to hysteria and neuralgia. Here it may be observed, how impossible it is, from the description of the patient, to form any idea of the exact amount of pain and suffering, or to institute any comparison between the expression of it as employed by different individuals. One will talk composedly during a severe operation; another looks pale and haggard, and seems to be in great pain, perhaps really does suffer much from a mere nervous affection, which exists chiefly in the imagination, and is principally maintained by the attention being continually directed to it. Here, then, is the inconsistency, that a very unimportant distraction serves to withdraw the attention, and thereby removes all recollection of its existence and every indication of its continuance. A third person suffers severely from paroxysms of pain, which no amount of pre-occupation can prevent, no distraction during its continuance can suspend; yet, in this

case, there may be no structural change to account for the presence of pain. The power of distracting the attention is often the only distinction between that which is unimportant and transitory, and that which is of grave import and exceedingly untractable, until its duration and recurrence, and the exhaustion it produces, point out its reality."—Page 33.

Concerning the succession of symptoms, and the doctrine of self-limited diseases, our author remarks: [pp. 33 and 34]

"A certain amount of caution is necessary in adopting the patient's description of the order of sequence of symptoms. It is remarkable how, in slowly advancing maladies, nature accommodates herself so completely to immense alterations in structure, that, until some unusual event occurs, the patient is utterly unconscious of any deviation from health; or, it may be, there is only a sense of malaise, without the possibility of tracing this feeling to its cause, or of naming any single symptom which has attended it. Suddenly some change occurs, of which the patient becomes cognizant; and then other sensations, which previously existed, take form and shape in his mind, and consequently find place in his description, after that which is, in reality, their effect and not their cause."

Again, so intimate are the relations maintained between all parts of the body, that it may not be in the very locality in which disease has commenced that symptoms of its presence first arise; and hence it sometimes occurs that the first feeling of illness may not directly point to its true seat. This must be corrected by knowledge of the theory of disease, and the various symptoms by which it is accompanied.

With these qualifications, the first real deviation from health is of much value in leading us back to the true seat of disease. Most diseases have a certain established course, which, either in broad or general outline, or even in minor detail, is followed by all the examples coming under observation; and although we cannot prescribe the exact limits of these sequences, either in days or weeks, in the majority of instances, yet there are, in all, general periods of greater or less duration, during which certain phenomena must present themselves, or else our diagnosis has been utterly at fault. This fact forms one of the elements of prognosis, and points out its association with a just discrimination of the nature of a malady in the first instance.

The general condition of the patient is the next subject considered—Chap. III. The phenomena to be observed are either objective or subjective; and are divided into the four groups corresponding with the groups under the head of "*présent state*," given in the schedule.

This chapter includes the consideration of those symptoms and signs

which are chiefly the subjects of observation in ordinary practice, the temperature, pulse, tongue, state of the bowels, urine, &c. Under the head of temperature nothing occurs worthy of note; but on the other hand, omissions of some consequence. For example, no allusion is made to the class of facts for which Bernard and Brown-Séquard have furnished explanations by nerve sections, and Wharton Jones by ratiocination applied to malaria; we mean local and limited elevations, and depressions of temperature. We remember a lecturer who was accustomed to insist much on the necessity of estimating rightly the signs furnished by hot palms, hot soles, &c., as distinguished from heat of surfaces along the extensors. A hot ear indicates paralysis of the capillaries, secondary to interruption of the nerve current in a cervical ramuscle of the sympathetic, says Brown-Séquard. At all events, it indicates a change among the ultimate molecules, concerned in the processes of nutrition. Local sweating is also a symptom to be marked, and, artificially produced by gutta percha lamina, is valuable as a remedial agent.

Pulse—how to measure it? and what it means? are questions in some cases easily answered. In cardiac diseases, in hydrocephalus, and the late stages of typhoid fever, there can be no doubt as to the story it tells; but there are many cases in which it makes a plain revelation only to the *tactus eruditus*.

One striking symptom our author finishes by two lines, thus: "Irregularity of pulse has very important bearings upon special forms of disease, but is of less consequence as a symptom of the general condition of the patient." Now we believe the fact here to be just reversed. Who has not felt intermittent pulse in influenza, and in all the forms of fever? and in that well-ascertained, if not well-defined, condition which Travers used to call "*constitutional irritation*," (we trust our young readers will excuse our using a term now so much out of date, inasmuch as it was thought in our best days to express a fact,) and even in those who have considered themselves as not unhealthy, and certainly free from cardiac valvular disease.

What is said concerning the physiognomy of disease should be especially commended to those who, in the hurry of the clinique or dispensary, must find means of knowing the whole affair with half an eye. There seems to be here a propriety in Bartlett's division into nosological diagnosis and therapeutical diagnosis.

We pass over remarks concerning the information derived from the aspect of the tongue, and also the scanty observations concerning the state of the bowels and urine, calling attention only to Piorry's pecu-

liar views concerning the former, and Oppolzer's and Marcet's minute attention to the latter class of facts; and particularly to the review of the Essay of M. M. Delou and Reeve, contained in the February number of this Journal.

The chapter on Special Indications closes (p. 43-46) with a tabular arrangement of compact statements concerning the stools, urine, aspect, alterations of color, position in bed, gait, &c., to which we refer our readers.

Having spoken of general signs and symptoms, our author next proceeds to take up special diseases, and diseases of special organs. We see on which side he stands in relation to a *questio vexata* of the time by the following sentence: "*there is a large class in which local disorder, as manifested by symptoms belonging to particular organs, is only secondary and subsidiary to the general disease.*"

Dr. B. does not insist much on the distinction between typhoid and typhus fevers, although several of the London writers have frankly changed their ground to correspond with Dr. Jenner's views. By none has it been done more promptly or more gracefully, than by Dr. Watson. We note also the following Anti-Clutterbuck sentiment, not because it would be particularly noteworthy on this side, but as an index to Dr. Barclay's Philosophy: "The prominent feature of the disease (continued fever) must never be lost sight of, that it is not *inflammatory*; it is a condition of asthenic pyrexia. In the head, we have delirium, insomnia, unconsciousness, coma; that these are not due to inflammation is proved by the history of the case."

In the lungs, congestion almost always comes on, more or less, from position, but this is not true pneumonia, &c.; p. 54.

Again, "*Remittent Fever* is not generally believed to be only typhus, as modified by atmospheric influences, and the condition of the nervous and sanguiferous systems of Europeans residing in tropical latitudes. The same analogy holds with reference to the only fever of this type ever seen among ourselves, infantile remittent, and there is nothing to show that infantile remittent may not arise even from the infection of typhus." The last is so cautious a statement, that it ought not to be exposed to criticism; we would then only reply, that, 1st, Infantile Remittent is an extremely prevalent disease in this latitude and longitude. 2d, That it is prevalent when Typhus is not about; and 3d, That Typhoid, which Dr. B. would consider a relative of Typhus, but which we do not, any more than scarlatina is of measles, is not infectious at all, to the best of our belief.

Still further on, when speaking of Influenza, our author says: "In

an enfeebled constitution, the least disturbance may provoke symptoms of general derangement, with fever of an asthenic type, closely allied to influenza; exactly as more severe disease may in the same constitutions cause typhoid symptoms or symptoms resembling typhus."

We detect the ambiguity of the last sentence, but only object to the sentiment, derived from the reading typhoid symptoms to be symptoms resembling typhus. If that is the author's meaning, we should join issue with him on the whole subject of specific disease and specific causes of disease. We believe influenza to be the result of a specific morbid impression—thermal, electric, hygrometric, or something else—specific at all events.

So too, in our view, is typhoid quite another thing from typhus—*ab initio* another thing. It is quite possible that a man with a common cold may get influenza. So he may get gonorrhœa. We should be sorry to believe that all the *inflammations* of mucous membranes belong to the same family.

Certainly, all this has something to do with Diagnosis. Who has not heard of the awkward embarrassments that have occurred here in our midst, to those who, unmindful of this present epidemic *genius*, could not see influenza through the disguise of typhoid fever, pneumonia, gastric or cerebral disease.

From the chapter on Rheumatism and Gout we extract the following paragraphs, which are fair samples of our author's style, and the intention of his work; p. 71:

"With reference to diagnosis, we have to discriminate diseases accompanied by pain in situations where chronic rheumatism is usually met with, and diseases of the joints, which are not rheumatic. The painful affections are chiefly neuralgic or sympathetic in the shoulder and upper part of the back; those connected with disorder of the liver and dyspepsia, across the loins; those produced by affection of the kidney, at the lower part of the back; in females, those associated with vaginal discharges and uterine disease. While in the hip and thigh it is often very difficult to make out whether the pain is of the ordinary rheumatic character, or is dependent on sciatica, which itself may be only a manifestation of rheumatism. In all of these cases we derive great aid from the consideration, that in rheumatic affections the pain is increased by movement: each, however, presents peculiar characters, which serve to confirm our diagnosis. In disorders of digestion, the prominence of the symptoms bearing more directly upon the function itself; in nephralgia and nephritis, the pain described as shooting down to the groin, thigh, or testicle; in uterine affections, the seat of pain corresponding to the sacrum, when movement cannot be its exciting cause; and in sciatica, the pain following the course of the nerve down the back and inside of the thigh, serves to discrimi-

nate it from one spoken of as extending from the hip to the ankle, simply because all the joints of the limb happen to be simultaneously affected."

"The diseases of the joints do not fall under our notice in medical diagnosis, but yet it is very necessary we should be able to satisfy our own minds whether, in any given case, there be not some more definite disease going on than that which, for want of more accurate knowledge, we call rheumatic. We have already noticed the degeneration of the synovial membrane, and we have still to mention ulceration of cartilages, scrofulous disease of the bones, and caries of the spine. In regard to all, we observe, that their course is very protracted, their commencement insidious, and that they are chiefly characterized by absence of pain in the early stage; pain, when it does come on, is shooting, transitory, and frequently attended by starting of the limbs. It is only in the advanced stages that it presents any permanence of character. We may further observe, not only that there is absence of pain in the quiescent state, but that cautious movement does not bring it on; while the slightest jar, causing concussion of one bone against another, is seen to cause pain, and that sometimes of a very severe kind. The patient who cannot bear his own weight on the ground, while perfectly motionless, is capable of much movement in bed without suffering, when the pressure is removed from the affected joint. A very frequent source of obscurity in the early history of these cases, is the circumstance that pain is not referred to the joint itself, but to a more distant one, in which it is only sympathetic. This point, when ascertained, serves as an additional ground for diagnosis. The age and aspect of the patient are suggestive with reference to the nature of the affection. Thus we look for disease of the bone in the young and delicate; ulceration of cartilages in the early part of adult life; and chronic rheumatism after its middle period, in persons who are fat and flabby, or cachectic and anæmic. In caries of the spine, the early progress of the case is scarcely marked by any feature which can distinguish it, till the prominence of one spinous process at the seat of pain indicates the irreparable mischief which has already taken place. In connection with this, we must not forget that lumbar and psoas abscess, or deep-seated pelvic inflammation and suppuration, when advancing slowly, are apt to simulate rheumatic affections of the loins and hips."

In chronic rheumatism we chiefly meet with two important complications, which seem each to have more or less to do with its development when present—constitutional syphilis and granular degeneration of the kidney. It is also intimately connected with mal-nutrition, whether tending to accumulation of fat or to general cachexia.

In the chapters on diseases of adventitious origin, we find syphilis and poisoning well considered—subjects which frequently offer embarrassments to the general practitioner, who is off his guard and unsuspecting—*causa latet, res ipsa notissima*.

The diagnosis of dropsies and hæmorrhages, chap. viii, does not present difficulties to those who are persevering in physical examinations, palpation, percussion, and minute examination of excreta.

Much of the art of diagnosis is better within the reach of any one of moderate ability and fair acquirements, who is patient and inquisitive—insists upon stripping his patient, and plunges, Curtius-like, into all the chasms—than of his superior in attainments, but of more elegant indolence and less brusquerie. It is the sharp rather than polite one who finds in the rectum cause for head symptoms, and, between bladder and rectum, cause for thoracic pain—who proceeds to amend a uterine hyperæmia before thrusting a probang into the pharynx. It is he, who is quite sure to examine suspicious coagula with his own eyes and forceps; and who listens for bruits below the umbilicus, before treating for amenorrhœa, or tapping for dropsy. He knows for a certainty whether beans or other lentils come out legitimately from the feminine urethra, and finds out whether “H. O., a female, aged about 16 years,” vomits urine or not. Vid. Laycock’s case, *Ed. Med. & S. J.*, vol. xlix.

The chronic blood ailments, and depraved constitutional states, for some reason, are treated in separate chapters. In the first, chap. viii, are purpura, scurvy, pyæmia, chlorosis, &c. Two of these, scorbutus and purulent contamination, we are sure, frequently escape detection. Our dispensaries are crowded with the wretched victims, for whom lemon juice is the catholicon. We do not acknowledge that we have been converted to the scurvy doctrine, any more than to the psoric; but we confess that, if we had charge of a dispensary, Mediterranean fruit would be an item of expense to the establishment.

Pyohæmia deservedly attracts so much attention in the books and academies, and yet in practice eludes so often sharp investigations, that we refer with pleasure to the brief paragraphs in Dr. Barclay’s work, pp. 105–107, which present the current doctrines as to the signs and nature of this insidious malady.

From the chapter which treats of scrofula, morbid growths, &c., which is quite as complete as the limits of the book would permit the author to make it, we find but little to transfer to our pages. The nature and locality of tumors are particularly well described, and we would only insist, rather more than Dr. B. finds it necessary to do, upon the diligent use of the pleximeter, Cammann’s stethoscope, the exploring needle, Wyman’s trocar, and upon digital examinations of the rectum and vagina, for the purpose of distinguishing pleuritic effusions, thoracic tumors, aneurisms, hepatic enlargements, muscular swelling, cœcal and vesical accumulations, uterine and ovarian en-

largements, &c. Some abdominal tumors, especially those formed by the gall bladder, distended, like that described in Cruveilhier's larger work, [Anatomie Path. xxix livr. pl. 4, fig. 1, 2, 3, and xxxvi livr. pl. 3 & 4,] and cysts formed by the kidneys and ureters, can only be made out exactly by the use of the pleximeter. The diagnosis of pancreatic tumors, like that described by Cruveilhier, [in the "Essai Sur l'Anatomie Path.," t. 1, p. 286, Paris, 1816,] we have reason to believe, will be much facilitated by the knowledge of auscultatory signs discovered by Dr. Cammann. Concerning tumors of this organ, Dr. Barclay says, p. 117:

"Occasionally a firm, hard tumor may be felt to the left of the epigastrium, which cannot be traced into the hypochondrium, and which, though accompanied by mal-nutrition, has not been associated with symptoms distinctly traceable to disease of the stomach. Such tumors have been found, after death, to be owing to scirrhus of the pancreas. The diagnosis is very difficult, and the position of the stomach is often such as to render it impossible to feel the hardened mass during life."

In considering the diagnosis of quasi-nervous diseases, pp. 124-126, our author gives some useful practical advice for the detection of that vexing, but profitable disease, Hysteria, to which the inexperienced might turn with profit.

The headings of Chap. XI. are deserving of note. They are, *General Examination of Regions and Organs—Diseases often Compound Phenomena—All Organs ought to be Examined—Negative as well as Positive results stated, &c.*

The chapter contains, among other things, a short-hand enumeration of the signs and symptoms which point to the different organs. When speaking of the kidneys, our author makes allusion to pain in the testicle. The pathological relation of these two glands has twice been vividly impressed upon our attention, by facts of an unfortunate character. Several years ago we saw, in the practice of a teacher of surgery, an inflamed testicle assiduously treated, locally, as a primary disease, for many weeks; till finally on the post-mortem table the diagnosis was changed, somewhat tardily, to correspond with the distended ureter, pus in the pelvis of the kidney, and a disorganized cortical structure. This blunder might have been avoided by a timely examination of the urine.

In the course of this chapter, Dr. Barclay gives this good advice to students, on the subject of note-taking, p. 128:

"One should never enter in his notes such vague expressions as 'chest healthy,' but state explicitly the extent of his examination and

its results, which need not, however, occupy much more space. Thus, to take the case of the chest, he may state simply that there is 'no complaints of pain, palpitation, cough, or shortness of breathing.' And this would imply that the chest had not been examined by percussion or auscultation. He may go further, and record that 'nothing abnormal has been discovered by percussion or auscultation,' or he may limit himself to some particular portion, 'breathing natural under the clavicles, at the back of the chest,' &c.; in the one case, he is understood to have examined the whole; in the other, only a part. The chief use of all these suggestions is to establish habits of accuracy; but if he should ever wish to refer to these cases in after-years, if it should be his lot to publish reports of them for the information of others, then the value of definite statements will more clearly appear."

The chapter on Semeiology of the Brain is worthy of special notice. It is not long, but includes much worth telling. We have not space to extract that which pleases us best, but find room only for a paragraph which contains Dr. B.'s opinions concerning a subject now much discussed in Germany and France. After remarking that the delirium of pneumonia, acute rheumatism, and erysipelas might readily be mistaken, our author says, pp. 137-138:

"Metastasis, in the true sense of the word, must be exceedingly rare in erysipelas; it may be conceived, but it is not known, as part of clinical history. I mean the disappearance of the swelling and redness of the part coincidently with the incursion of head symptoms. On the other hand, considering the nature of the disease, that it is not associated with exudation of lymph, but of serum, it is quite possible that serous effusion may be due to extension of erysipelatous inflammation to the membranes of the brain; but it is quite as probable that the delirium is merely the evidence of altered condition of the blood, of the circulation, and of the nervous energy, as in the other forms already noticed; and this is the more likely, because it exists without, as well as with effusion. In diagnosis, we have only to remember that the delirium of erysipelas is not associated with inflammation of the structure of the brain, or with such inflammation of its membranes as leads to effusion of lymph or of pus, because this is an all important point in treatment.

"In rheumatism, again, something very like metastasis to the heart occurs, and there may be something like metastasis to the brain. The disease is essentially erratic. But in far the larger number of cases, we are sure that the delirium does not depend upon metastasis, because rheumatic inflammation of the joints, of the heart, and of the pleura, is accompanied by exudation of lymph, and rheumatic inflammation of the membranes of the brain should be similarly evidenced by the presence of lymph. Post-mortem examinations prove that this is very rare indeed, and we are therefore justified in assuming, that unless the evidence of inflammation within the cranium derived from

other sources be very decided, delirium, following upon an accompanying acute rheumatism, is to be classed along with that of fever, of pneumonia, of erysipelas, and to be taken merely as evidence of blood-poisoning; and this so much the more certainly if there be no retrocession of the affection of the joints, or if it has been preceded by inflammation of the heart.

“In one of the less acute forms of rheumatism the synovial membrane is distended with serum, not with lymph, and several cases are on record in which the sudden disappearance of the effusion in the joint has been followed by an equally sudden occurrence of effusion in the brain. In these cases, the symptoms were rather of coma or stupor, than delirium; they, perhaps, are the only real instances of metastasis met with in practice.”

The space devoted to diseases of the nervous centres is ample and is well filled—pp. 130–187. We note only an excellent resumé of what is known concerning the diagnosis of that frequent and perplexing malady—Infantile Meningitis. We have been accustomed, in thinking of the differential diagnosis of this *immedicabile vitium*, to recur to the Essays of Charles Taylor, on Infantile Remittent, &c., in the Medical Times, July, 1851; to Simon's, Golding Birds, and Rilliet's Essays on Cerebral Symptoms dependent upon diseases of the Kidney in infants; and the Guide du Medecin, of the pains-taking Valleix; but we find nothing more satisfactory than is contained in the work now before us. Reynolds, in his excellent “Diagnosis of Diseases of Brain, Spinal Cord, &c.,” laments that works on Diagnosis are generally of no use till the disease has been ascertained. This objection, we do not hesitate to say, cannot be applied to Dr. Barclay's work, although we discover frequent evidence that the author had been accustomed to write of disease from its anatomico-pathological side, and so, forgetting now and then the intention of this work, has fallen into the disquisition style of the systematic treatise on the practice of medicine.

By no class of diseases is the art of Diagnosis more frequently put to the test than by those which present symptoms of pulmonary affection. For these, the grand question is often Prognosis, for which Diagnosis is an essential preliminary. No one, however expert at auscultation and percussion, should feel that he has exhausted the subject of the physical examination of the chest till he has read Addison's cogent resumé of the common fallacies by which those who assume for stethoscopic revelations unerring certainty, are endangered. Dr. Barclay is so judicious in this respect that we need offer no caution to those who carefully read his copious and minute exposition of the signs derivable from the examination of the sputa, and the various auditory phenomena of the respiration and circulation.

The chapter devoted to the general subject, examination of the chest, occupies 43 pages; and the special diseases occupy 60 pages more; quite sufficient for the faithful treatment of the subject, in our author's solid style. We have only to specify a deficiency in the section, p. 283, belonging to Diseases of the Lung in Childhood. There is here much that is deserving of attention, but the distinction is not clearly stated between lobar pneumonia in children, which is almost never fatal, and the tubular pneumonia, forever associated with the name of *Fauvel*, a disease almost always fatal and not uniformly apparent to auscultation. The following paragraph deserves to be remembered:

"Chronic bronchitis, which so often simulates, or is so often simulated by phthisis in the adult, is often quite undistinguishable from tubercular disease in infancy. Here dissemination of tubercle is the rule; its aggregation in masses, except in the bronchial glands, the exception. Hæmoptysis in childhood is by no means a sign of phthisis. The stethoscope can scarcely afford any assistance in discriminating these affections. It must be added that, when judicious treatment is employed in cases which have all the aspect of tubercle, the children so completely recover from the attack of bronchial irritation accompanying it, and are so often lost sight of subsequently, that no person of any experience will venture to give a decided opinion, except in very clearly marked examples of each disease. It is to be remembered that when the bronchial affection has passed, the signs of remaining consolidation at the apex are never found in childhood; if any localization of tubercle prevail at this period of life, it is only in the glands at the root of the lungs."

This subject is exceedingly well presented in a memoir "*Sur le diagnostic des maladies de la poitrine chez les enfants*," par C. Taupin. The little work of Dr. Racle, Paris, 1854, composed almost under the eyes of M. Bouillaud, may also be referred to as a very complete and convenient treatise on this subject.

The following sentences are noteworthy, as containing opinions concerning the nature and locality of croup, and are interesting in relation to the presence of tonsillar exudation as a diagnostic sign, and also from their bearings upon the question of tracheotomy. In this part of the United States the prevalent opinion differs somewhat from the following views of Dr. B., who, however, expresses what we have been accustomed to regard as the true pathology of the varieties of genuine croup; (p. 36.)

"Acute inflammations of the entrance of the air-passages in childhood is an affection quite *sui generis*. It is not here our business to enter upon its pathology, but merely to point out that,

while in the adult the inflammation is usually limited to the larynx, or at least derives all its importance from the inflammation attaching itself to the opening of the glottis, in childhood the trachea is the chief seat of the inflammation; the larynx and the fauces are usually involved secondarily, and to a less degree. The chief exception to this is found in the diphtheritis, which often prevails epidemically on the Continent; it clearly commences in the upper part of the pharynx, and very often terminates in true croup. As the disease proceeds, membranous shreds of lymph may be coughed up or expelled by vomiting, or patches of lymph may be seen on the fauces; this renders the diagnosis of the disease quite certain; but in some cases no membrane at all is found, the trachea and bronchia are simply inflamed and bathed in purulent secretion."

The remaining parts of this work are taken up with the consideration of Diseases of the Heart, Diseases of the Abdominal Organs, Examination of the Urine, and Diseases of the Skin. There is much matter that we should be glad to transfer to our pages, but as it is rather our intention to call attention to the doctrines of Dr. Barclay's excellent manual than to reprint it entirely, we refer our readers to the work itself.

The perusal of the book has afforded us much satisfaction. We welcomed it at first on account of its title, for it promised, we believed, to be the right thing for clinical students, and it appears to have fulfilled its intentions. It would not be difficult to find some deficiencies, for now-a-days people say to all writers, *approfondissez les choses*. To fulfill this requisition would have demanded of Dr. Barclay a larger book than he has undertaken. Much of the work is quite elementary, but it is not the worse for that; the flower and fruit of one generation make the germinal elements for the next.

But now, having gone all over this manual, the design of which is to teach men how to diagnosticate, there remains this to be thought of—rules, good rules, the best that can be, are not hard to find, but when all has been said, to diagnosticate is really and fundamentally a matter of *organization*, however expert you may be with the technics. We learn how, by means of the process of comparison, and by exclusion, which Rostan has ably developed, and the process of "*subsumption*," to use Siebert's expression, by inquiring what the given specimen of disease cannot be, and then what it must be, extraordinary feats of grand and lofty diagnosis have been accomplished by clinical masters. To successive generations of students, the stories current at La Charité of Cruvéilhier's and Velpeau's diagnostic leaps are handed down *sine grano*. The detection of inflammation limited to the splenic vein, and of an undeveloped foetus in a scrotal tumor, are matters, we

have been made to believe, requiring no uncommon degree of acumen, if, indeed, they are not to be detected across the ward by a *coup d'œil*. With us, it stands as an article of faith, that it has been organically constituted, so that a prompt diagnostician is a man of fineness of fibre, an impressible man; one who looks for what he wants, and sees all there is before him, and foresees all there is to be. He has the faculty of separating himself for the minute from his past—leaves his memory, his preconceptions, his prejudices, and is nothing for the nonce but eyes and ears and tactile nerves. Who can do this? Not many, as we have seen men. To some, it is as certainly impossible, by any course of training, as it is to others to feel a logical compulsion, or an æsthetic nicety. The naturalist, with the true gift, has something of an artist's temperament, and may now and then be indiscreetly guilty of *des eclats de verve*.

The bovine temperament carries weight, and, with the selfishness of large vitality, looks out for its hay while the sun shines; but with all its strength, it has never done much to help on the freighted car of science. It must be true, for the "autocrat of the breakfast table" says it is, and he is too intimate with the professor, and shows himself too keen a naturalist, to be guilty of an error of observation—"that the bulbous fellows who steam well when they are at work, are the men that draw big audiences, and give us marrowy books and pictures." And Carlyle says of Mirabeau, the *fond gaillard*, "there is the same burly, thick-necked strength of body as of soul." We have seen a clumsy Dr. Mirabeau hopelessly befogged in trying to carry over the billows the tender child of a broken-hearted mother. These men of strong principles and great steadiness of purpose, possessing what is called character rather than intellect, may make good leaders of the people, statesmen, or preachers; but they become balky doctors, and altogether unprogressive, though adepts at deportment, and impressive at consultations. We have known those whose esculapian wisdom, it is fair to suppose, was put into a *sachel*, and deposited in the pocket some time ago; and when it is taken out to air, there is an odor of crushed flowers about the place. Esculapius in lavender!

The coxcombry of learning may be tiresome, but is more tolerable and praiseworthy than the Jesuitical *Sans-souci* with which big-headed ignorance shades its eyes from the glare of new facts and the haze of tentative theory. It is not easy to stoop over a fatty omentum, and a distended colon is as much in the way of deference and humility as a torticollis is in the way of courtesy. He who walks with a heavy tread cannot change his course—not he. It is a clear case.

R.	Hydrargyri Chloridi,	gr. xv.
	Pulv. Jalapæ,	gr. xxx.
M.	Omne nocte sumend.	

* * * * "What's to do?"

Brutus.—A piece of work that will make *sick* men whole.

Ligarius.—But are not some whole that we must make *sick*?"

It may be said that saints without bodies are not the men for great deeds, but it is, nevertheless, their mission to put ideas into the heads of buncombe saints, who distribute them with lung and muscle. We should confess to the "Autocrat," if we had the honor of meeting him at his breakfast table, that it was one of his own offspring that put us up to making the remark, that your sharp, knobby, compact, full-blooded fillies make better time on the course of life and death than your heavy, sleek, complacent, steady goers of hepatic dignity, and should ask him if he did not agree with us, that the *vir artis medendi peritissimus* might quite as well be symbolized by a pepper berry as by a pumpkin.

Now, we hold, that in every case is a novelty which this sort of stereotype doctor is not prepared for. His mind is made up. He knows all about it. He learned how to treat fever forty years ago, and has failed to see that nature never exactly repeats herself—that even the sun's orbit is never twice alike. But he takes no note of Precession of the Equinoxes. The man who boasts of his consistency is possibly a correct man in morals, but is not likely to hit it right in medicine, though he swear by Pallas Athene, Asclepios, and Hygeia. He leans too much on his past, and is not sufficiently alive to the fact just now before his eyes. A strong nature moulds the molten mass that genius has smelted out of hard rocks. The patient waiters on the shore, with composure and safety, pick up the pearls of truth that are brought to their feet by the great world's tides. As they are self-preservative and venture nothing, they get only treasure trove by their searchings. The best pearls lie deepest, and are seized and brought to light only by those who, adventurous, are tossed at sea, and who, in pursuit of hidden gems, lose sight of themselves, and are at times lost to view of their fellows.

SOIXANTE-DIX.

Essay on the Secretory and the Excito-Secretory System of Nerves in their relations to Physiology and Pathology. By HENRY FRASER CAMPBELL, A.M., M.D., Professor of Special and Comparative Anatomy in the Medical College of Georgia, (Augusta,) and one of the Vice Presidents of the American Medical Association. Philadelphia: J. B. Lippincott & Co., pp. 154, octavo, 1857.

The volume before us is made up of four essays, which we propose to notice very briefly, in the order in which they occur in the volume. The *first* relates to the "*Classification of Febrile Diseases by their relation to the Nervous System.*" As the normal functions of the human organism are known to occur under the superintending influence of the nervous system, Dr. Campbell concludes it rational to infer that all *abnormal* phenomena of life, as related to functional condition, are more or less influenced in their manifestations by "*aberrated*" nervous action. With this inference before him, he concludes that the classification of febrile diseases, at least, should be based upon the physiology of the nervous system. We cannot do better than to let the author speak for himself. "As in the nervous system we recognize two grand departments, viz: 1st, the cerebro-spinal system, all the normal actions of which are subject to cessations and interruptions; and 2dly, the ganglionic system, all the normal actions of which are of a continuous and *uninterrupted* character—so in the manifestations of febrile diseases do we distinctly recognize two grand distinguishing characteristics, respectively typifying the *normal* actions of these two systems of nerves: thus, a character of *paroxysm* obtains in certain cases, while a character of *continuousness* as plainly marks the others." Again: the normal action of the cerebro-spinal system of nerves pertains almost exclusively to sensation and to motion, while in the normal action of the ganglionic system the entire function relates to nutrition and the secretions. To show the nervous relations of febrile diseases, it is only necessary to mention that *paroxysmal fevers* are characterized by modified sensation, while in *continued fevers* altered secretion and nutrition are the marked and most prominent characteristics. Upon these facts Dr. Campbell bases his classification of febrile diseases, making two grand divisions, thus: 1st, *cerebro-spinal fevers*, *paroxysmal* in character, the secretions and nutrition only *secondarily* affected; 2dly, *ganglionic fevers*, *continued* in character, the secretions and nutrition *primarily* affected.

It might be objected that such classification would avail us but little, as it would necessitate subdivisions not very dissimilar from our present nomenclature; for pneumonia, dysentery, &c., would necessarily fall under the head of cerebro-spinal fevers, while small-pox, mea-

sles, scarlet fever, &c., would be classified with typhus, under the head of ganglionic fevers. We did not, however, in this paper, propose a criticism, as that would involve more time and require more space than is at our disposal; but, rather, to give our readers some idea of the nature and importance of the contents of the volume before us. We may, however, remark, somewhat in support of Dr. Campbell's classification, that it is admitted by most pathologists, that remittent fever has its proximate cause in the nervous centre, and also that typhoid fever has its primary seat, likewise, in some yet undefined portion of the nervous system; yet it is manifest that these two diseases are essentially dissimilar in nature, are generated by conditions totally unlike, and that they commence their attacks by making impressions having no real analogy. It is true, we may get similar functional derangements in both diseases; but this derangement is, in the one case, the result of increased action; in the other, of diminished vitality. An obstruction to functional manifestation should not be confounded with a diminution of motive power. In additional confirmation of the pathology upon which Dr. Campbell bases his classification, we may observe, that Dr. Selade, Dumas, and others, have alluded to the frequent passage of intermittent fever into epilepsy, and from this fact have argued an analogy between these two diseases. Dr. E. Brown-Séquard, in a recent work on epilepsy, mentions the following fact, as bearing upon this point: "That intermittent fever is an affection of the nervous system, is proved by a curious case of fracture of the spine, in which the parts paralyzed remained in a normal state, while the rest of the body had all the phenomena of a paroxysm of fever and ague."

The second paper is entitled "*An Inquiry into the Nature of Typhoidal Fevers.*" This paper occupies sixty pages of the volume before us, and its principal object is to prove that typhoid fever has its pathological seat in the ganglionic nervous centres. We would be glad to follow the author, step by step, from commencement to conclusion, but that would require much more space than is at our disposal. In the absence of this, we take pleasure in referring our readers to the paper itself, which will abundantly repay perusal and study. We cannot let this paper pass without making one extract, which we have faith to believe will be sufficient to induce the readers of the MONTHLY to read the paper entire.

"Our knowledge in regard to its (typhoid fever) observed *phenomena* and *facts* is clear, well defined, almost certain; to complete the science in regard to it, it has but remained that these cognate,

well-ascertained facts and phenomena be rationally and correctly *interpreted*, that its true pathology might be *deduced*. To this arduous, though not unpleasing task, not without many misgivings, we have earnestly and diligently devoted ourselves; more with the hope that our labors would prove suggestive to others, of the true mode of arriving at real pathology, than that we should be able to supply the want or remedy the deficiency. Starting with what we considered the rational assumption that the pathology of typhoidal fevers is in the ganglionic system of nerves, we have compared their characteristic traits and phenomena with, first, the *normal* action of this portion of the nervous system, then with the known and well-established results of *experimental irritation and action* of various portions of these nerves, and we have found that the analogy is sufficiently close to admit the legitimate inference that the symptoms and pathological lesions of typhoid and typhus fever are produced by an abnormal action in certain portions of this system of nerves. First, however, no typhoid or typhus phenomenon ever occurs, except in regions supplied by this system; secondly, because the peculiar phenomena of these diseases occur in a more marked degree in those parts most abundantly supplied from this source; and thirdly, because the nature of these symptoms is always found more purely and characteristically typhoid in those portions of the organism supplied exclusively by this kind of innervation. And further, on the other hand, we are forced to admit the truth of these impressions, because we have hitherto had no theory or legitimate and consonant combinations of theories, to our mind, as competent to the full and rational explanation of *all* the phenomena of the disease, as the one now offered." (p. 58.)

In drawing a distinction between typhus and typhoid fevers, Dr. Campbell says, "we would locate *typhoid fever* in the *visceral* portion of the ganglionic system, and *typhus* in the *vertebral* portion."

The *third* paper is entitled "*The Excito-Secretory System of Nerves: its relations to Physiology and Pathology.*" To this essay the prize of one hundred dollars was awarded at the tenth annual meeting of the American Medical Association, and is published in the last volume of the Transactions of the Association. This essay occupies about 50 pages of the volume, and gives evidence of much study and careful thought. We have carefully read this essay, and marked several passages for quotation and remark; but we now forego our purpose, for to do the author justice would require much space, and we are the more willing to forego this analysis, knowing that our readers, interested in this subject, will avail themselves of the opportunity to read the essay entire. The object of the paper is thus distinctly stated by the author: "Our earnest endeavor has been to bring together, from all sources, however diverse and unpromising, a

sufficient number of kindred facts, to establish more fully, perhaps, than has heretofore been done, the physiological and pathological relations of the excito-secretory system of nerves." To this task, uninviting and even forbidding in some of its aspects, he has devoted himself, in the full conviction that the field is a rich one. Such it has proved in his hands.

The fourth and concluding paper is entitled "*A Claim of Priority in the Discovery and Naming of the Excito-Secretory System of Nerves.*" This was prepared originally for the *London Lancet*, and was addressed to Dr. Marshall Hall. This paper, in which Dr. Campbell urges his claim to priority in discovering and naming the excito-secretory system of nerves, elicited a response from Dr. Marshall Hall, under date of April, 1857, in which he generously yielded to Dr. Campbell all that he claimed as his right.

In conclusion, we would say this volume will well repay an attentive perusal, and is certainly creditable to the author and to American medicine.

O. C. G.

Proceedings of the American Pharmaceutical Association at the Sixth Annual Meeting, held in Philadelphia, September, 1857; with the Constitution and List of the Members.

This is the title of a thin octavo volume of 178 pages, which exhibits very gratifying indications of the advance that is being made by the pharmacutists of our country. But a few years have elapsed since this association was formed, almost without attracting any notice from the public mind, and now we find their proceedings containing papers indicative of careful research and zealous study. The reports, generally, indicate a true scientific spirit, which we hope will eventuate in driving from the shelves of every educated pharmacist all nostrums and quack medicines. The report on weights and measures suggests that there be but one system of each, depending on a decimal character for its value. The unit for the system of weights proposed is the present *avoirdupois* pound. Ascending by tens, from this unit, are stones and hundred weights; descending, ounces, drachms, scruples, and grains. The unit for the system of measures is the gallon, which must contain exactly 10 pounds of distilled water; ascending from this, we have ankers and tons; descending, pints, ounces, drachms, and scruples. "*The Report on Sale of Poisons*" contains some valuable suggestions as to the proper precautions to be exercised so as to pre-

vent accident. "The Report on the Progress of Pharmacy" contains the following, which clearly shows that there are some non-progressives in the business even at this day. A member of the committee writes, "I am acquainted with one doing a considerable business, who had only to aid him an old London Dispensatory of 1796, and within the last six years he asked me seriously what dispensatory I would advise him to purchase, as he found that so many new articles were introduced which he could not find in the old one, it was necessary to get another." "The Report on Unofficial Formulæ," though tolerably full, is not as much so as one could desire, when the immense number of these formulæ is taken into consideration.

In addition to these reports, there are some reports and essays on special scientific subjects, viz.: New England Isinglass, the manufacture of Iodine, Henbane of American growth, American Lard, Elaterium, Ergot, Spigelia, methods of rendering medicinal preparations pleasing to the eye, &c., the use of indigenous plants, and an article on ethical analysis, (sic!) which is occupied with certain queries as to the duties of pharmacutists.

On the whole, we think this little book is very creditable to the Association whose imprimatur it bears, and will be profitable, on account of its information, to all its readers. s.

Report of the Trial of Miss Madeline Smith for the alleged Poisoning of Pierre Emile L'Angelier, revised and corrected by JOHN MORISON, Esq., Advocate. Edinburgh: W. P. Nimmo, 1857, pp. 184.

The case of Miss Smith claimed public attention immediately after that of Palmer. In the latter, the poison was not detected, but the chain of circumstantial evidence was so overwhelming that a verdict of guilty was rendered by the jury; in the former, the poison, arsenic, was detected in the small intestine and contents, large intestine, liver, brain, heart, and lungs, but the evidence did not justify the jury in fixing the crime of its administration on the prisoner. The report of the case is interesting to the toxicologist, not on account of any difficulties that attended the chemical examination of the organic substances, but because of the readiness with which the regular reactions of arsenic were obtained by Dr. Penny, of the Andersonian University, Glasgow. On the copper foil used in Reinsch's process, an abundant steel-like coating was obtained, which gave off the arsenical odor on being heated in a test tube, and was converted into arsenious acid. Marsh's

process, with a distilled portion of the fluid, gave arseniureted hydrogen gas, with its bluish-white flame, and the characteristic properties of this gas. Sulphureted hydrogen precipitated the ter-sulphide, soluble in ammonia, and unchanged in chlorhydric acid. Many years of troublesome investigation were required before chemistry was able to present its present simple series of tests for arsenic, but their very simplicity now bids us take courage as to our future ability to determine poisons at present considered as beyond the reach of chemical investigation.

s.

PROCEEDINGS OF SOCIETIES.

Academy of Medicine.—Obstetric Section. Dr. BARKER, Chairman;
Dr. UNDERHILL, Secretary.

Jan 18th. After the election of officers for the ensuing year, and passing a vote of thanks to the retiring officers, the relation of cases being now in order, Dr. Underhill was called upon, who related the following case of

Menorrhagia, occurring in a married woman some 45 or 46 years of age, and the mother of five or six children. Her health had previously been good, although she was of rather a delicate and nervous constitution. She had menstruated regularly up to the time of the present attack. For a month previous to his being called to see her, there had been a constant discharge of blood from the uterus. He found her in bed, with a pale and sallow countenance, throbbings in the head, dimness of sight, tongue coated, pulse very weak, 90 per minute. Upon a vaginal examination, he could discover nothing abnormal in the condition of the uterus. The os was slightly open. The treatment consisted of elixir vitriol internally and cold applications to the vulva. Afterwards, ice within the vagina, ergot, acetate of lead, and gallic acid. When the hæmorrhage ceased, a troublesome nausea and vomiting came on. She was at length able to move about the house, and she gradually gained strength. In two weeks the hæmorrhage again came on profusely, and was again arrested by the use of some of the remedies before mentioned, special reliance being placed on the gallic acid and acetate of lead. On the cessation of hæmorrhage the vomiting again recurred as before, on account of which a blister was applied to the epigastrium.

Dr. White ascribed the hæmorrhage to the turn of life. Dr. Bar-

ker said he had found the menorrhagia of the critical period exceedingly difficult to manage when it occurred with no rational or physical signs of uterine disease, and he, in common with all present, had met with many such cases. In the present state of uterine pathology we are accustomed to search carefully for structural changes, when such an important functional disturbance occurs; but for years he had constantly more or less cases of troublesome menorrhagia at the critical period in which no uterine or ovarian disease could be detected, and apart from this one symptom and its consequences there was no disease of any other part of the system which could account for the tendency to uterine hæmorrhage. He had tried every variety of astringent and styptic, both locally and internally, but no plan of treatment had proved satisfactory. The ergot, so highly lauded by Churchill and others; the gallid acid, cinnamon, as recommended by Dr. Tanner; matico, turpentine, and, in short, all this class of agents had failed so frequently in his hands, that he now placed no faith in them in this form of hæmorrhage. As to the acetate of lead, he could not understand how it ever obtained so much reputation as an agent for controlling any form of *uterine* hæmorrhage. Dr. B. used it for many years, in a great number of cases, and in the fullest doses, without obtaining such results as would lead him to place much reliance upon it. It is now nearly two years since he had adopted a new method of treating the menorrhagia which occurs at the critical period, and the results were so satisfactory both in his own practice and in that of other gentlemen who had tried it, that he felt justified in mentioning it to the section. Menstruation is ordinarily coincident with ovulation, and the present doctrine is, that it is a result of an abortive attempt on the part of the uterus to form a decidual membrane. In other words, it is a kind of ovular lochia, accompanied by a similar change in the lining surface of the uterus, (differing only in degree,) as that which follows parturition. Now, starting from these physiological premises, by a process of reasoning which will readily suggest itself to every one, the theory was deduced, that this hæmorrhage resulted from a lesion of the internal surface of the uterus. Therapeutical results seem strongly to confirm this view. Of course, it cannot be demonstrated to be true, except by careful necroscopic examinations, an opportunity for which seldom occurs. The treatment consists in applying remedial agents directly to the internal surface of the uterus. At first, Dr. B. tried injections into the cavity of the uterus, but these almost invariably caused severe pain. Any fluid thrown into the cavity of the uterus will generally excite uterine colics. It

is a curious but a well-established clinical fact, that the uterus tolerates within the cavity a solid substance much better than a fluid. He (Dr. B.) often found patients who suffered very little pain from the introduction of the sound and any necessary manipulations with it, who complained of severe sufferings, lasting even for hours, when a few drops of any fluid was thrown into the cavity of the uterus. It should be mentioned, however, that where the cavity of the uterus is greatly enlarged by sub-mucous fibrous tumors for example, the tolerance of fluids is very much greater. In two cases, with such tumors, Dr. B. has thrown a half ounce of the Tinc. Benzoin Co. into the uterine cavity with the effect of at once arresting the hæmorrhage without producing pain. The only sensation excited was a moderate degree of warmth. But in those climacteric hæmorrhages, unassociated with any abnormal growth, Dr. B. now uses the following:

No. 1.

R.—Argent. nit. crys. ʒij.
Ext. Belladon. ʒj.
Ung. Cetacei, ʒi.

M.

No. 2.

R.—Zinci. Sulph. ʒij.
Glycerin, ʒij.

M.

These are carried into the uterine cavity by means of a kind of suppository tube. From one to two inches of the tube is filled with the ointment, the tube is carried into the cavity of the uterus in the same way as the sound is introduced, the piston is then pushed home, which leaves the ointment in the cavity. By this treatment he has found these cases perfectly manageable. Not to detain the section by a detail of cases, he would only mention one which he saw with Dr. KISSAM. The patient had for a long time been suffering from uterine hæmorrhage, and was extremely emaciated. One application of the zinc and glycerin was followed by complete arrest of the hæmorrhage, and more than four months have now passed without any recurrence. Dr. B. was not able to say which formula was the more effective, but the principle which guided him was this: when the uterus was somewhat enlarged, irritable, and painful on pressure upwards through the posterior vaginal cul de sac, he used the nitrate of silver and belladonna ointment. When these symptoms were absent, he selected the zinc and glycerin.

Dr. Wooster has succeeded in controlling this form of menorrhagia

by injecting nitrate of silver into the cavity of the uterus. He had not found these injections produce so much pain as Dr. Barker's remarks would imply.

Dr. Taylor remarked that sulphate of zinc will sometimes act as a powerful escharotic, and he should therefore be very apprehensive that its use in the manner described might produce ulceration.

EDITORIAL AND MISCELLANEOUS.

The Academy of Medicine held its regular meeting for March on Wednesday evening, March 3d. After the reading of the minutes of the preceding meeting, Dr. John McNulty asked permission to make a personal explanation. It appeared that Dr. M. was not present at the February meeting, having gone to Albany as a delegate to the State Medical Society, and that during his absence advantage was taken to attack him, as he believed, unjustly and unfairly. A good deal of feeling was manifested by those to whom the doctor attributed these unworthy actions and motives, and as he insisted upon calling things by their names, instead of using doubtful circumlocutions, the discussion was animated. He was repeatedly called to order by members, but having found that he was in order, was allowed to go on. When silenced by the president, he appealed to the Academy, and the Academy sustained him; and he continued till, as was understood, at the suggestion of one of his friends, he postponed the farther discussion of the subject.

The reports of sections being next in order, the section on surgery and the section on obstetrics reported. By the latter a complimentary resolution was proposed on the paper of Dr. Thomas upon prolapsus of the funis, and it was adopted by the Academy. A long written report was presented by Dr. Janes, secretary of the section on materia medica. Some time since a quantity of fluid extracts was presented to the Academy by the manufacturers of them, and one or two partial reports from the section have been referred back for further consideration. This one was a high commendation of fluid extracts as a mode of obtaining the valuable ingredients of medicinal plants, and seemed to surprise the Academy, who had before received a paper from a member of the same section, which demonstrated the uncertainty of all such preparations. As this was presented as being the unanimous opinion of the section, Dr. Rotton, who had read the paper

just referred to, said that, as a member of the section, he entirely dissented from the report, and asked leave to present a minority report, which was granted to him, together with permission to use the majority report in preparation of his. It was proposed that the report of the section be allowed to be printed, but it had so much the look of an advertising dodge and puff for the manufacturers, that permission was not granted.

The secretary read an invitation from the executive committee of the quarantine convention to the Academy to send delegates to the next meeting, to be held at Baltimore in May next. The communication was received, and it was voted not to send delegates.

The secretary then read a communication from the County Medical Society of Philadelphia, which had, by vote of the Academy, been ordered for reading this evening. The paper was a complaint against Dr. D. M. Reese, of this city, because he recommended Dr. McClintock, of Philadelphia, to the Board of Health of that city as a man qualified to take charge of Blockley Hospital. Dr. McC., it appears, some few years ago, furnished to certain parties, for a pecuniary consideration, the prescriptions for various preparations, which were afterwards advertised for general sale as the McClintock medicines. This was a great departure from the rules of medical propriety, and Dr. McC. is alleged to have thus forfeited his position as an honorable member of the profession. For this conduct he was expelled from the American Medical Association; and the County Society of Philadelphia complain that Dr. Reese, who is now vice-president of the same association, should have given him a recommendation. The complaint was lugubrious in the extreme.

The secretary moved that it be referred to the committee on ethics. Dr. Reese then took the floor, and objected to the reference to that committee. By their previous action, he contended, they had put themselves in a position entirely disqualifying them from farther consideration of the subject. They reported that the paper contained "grave charges," and instead of confronting the accused with the accuser, or giving the accused a written copy of the charges, or endeavoring "to reclaim the offender"—all of which things the constitution makes it their duty to do—they had recommended the paper to be read openly and publicly, without first inquiring whether or not the charges were sustained by evidence, and thus had become Dr. Reese's accusers. As to his giving the recommendation, he admitted that he did so, and under these circumstances. Dr. McClintock and himself were, in their boyhood, friends and playmates; their parents' families

being intimately bound together, and themselves always attached to each other. McC. studied medicine at the Jefferson School in Philadelphia; was a pupil of Godman, and became his successor as an independent lecturer on anatomy, having frequently a class of three hundred pupils. Not content with this, he aspired to be professor in one of the schools in Philadelphia; but not succeeding, obtained from the Legislature a charter for another school, which he organized, and which entered upon its career. From this rivalry with the older schools comes all the hostility to McC., and this is the real cause of the complaint of the County Society. In this institution, he, as its president, became responsible for the salaries of the professors, and by these expenses and pecuniary responsibilities was ruined. Thus involved, he found himself very seriously ill, with congestion of the brain, and believed himself not likely to recover, or to live more than a year or two. His family consisted of a wife and nine children, seven of whom were girls, and one of the boys was an invalid, incapacitated for business. Thus situated, with death before him, and nothing but poverty to leave to his children, he was solicited to furnish to a company his prescriptions, and the use of his name, on condition that he should receive \$5000 down, and \$5000 a year subsequently, and his family to have six per cent. of the profits after his death. Were not these circumstances sufficient to tempt a man? Dr. Reese at once told him he had done wrong, and their friendly intercourse was entirely interrupted. But Dr. McC.'s health was restored, the speculation failed, and he sought to return to the practice of his profession. He was first elected to the Board of Health of Philadelphia, and retired from it without any reproach, after a year's service. In the spring of 1857, Dr. R. saw him at Philadelphia, and learned that he had abandoned quackery. Some weeks after his return home, he took out of the post office a letter, asking for a certificate that Dr. McC. was qualified to take charge of Blockley Hospital, it being added that the election would be the next day, and an immediate answer was necessary. Dr. R. immediately went into a neighboring stationer's, and hastily wrote that Dr. McC.'s professional attainments were such as to fit him for the place. He affixed no titles to his name, (which was one of the complaints of the Philadelphia Society,) but simply answered the question put to him, honestly and fearlessly. He did not pause to inquire what was politic, but what was his duty, and then did it. And he would add, that, under precisely similar circumstances, he would do just the same thing again, "now, henceforth and forever." The doctor then proceeded to comment on the respectability of the

source from which the communication came, a point insisted upon by the committee on ethics, saying that he had in his pocket a copy of the indictment against one of the signers of the paper of charges, on account of various crimes against property. In conclusion, he said if he had any friend there, he wished he would move a reference of the matter to a special committee. (During Dr. Reese's speech he was frequently called to order by various members; was interrupted by the president, who seemed to forget that he was a presiding officer, in his anxiety to defend his position as a member of the committee on ethics; and occasionally was greeted with cordial and hearty applause.)

Dr. Warren then rose to defend the committee. Dr. Barker moved to refer the matter to a special committee. Dr. Gardner moved to lay it on the table. Dr. Anderson made explanations for the ethical committee. Dr. H. Green thought there was no constitutional ground for action, and that the matter should be dismissed. And so the discussion went on, in the most irregular and exciting manner.

Finally, Dr. Detmold presented two resolutions, as substitutes for all other action. They were as follows:

Resolved, That this Academy learns with regret that one of its Fellows has recommended to a position of high respectability an individual who has forfeited his rank in the profession.

Resolved, That a copy of the resolution be sent to the Philadelphia County Medical Society.

The discussion then turned upon these resolutions. Dr. Beadle moved that the word *reprimand* should be introduced. Some one else moved that Dr. Reese's name be inserted; and then the previous question was demanded. After a protracted discussion, the ayes and noes were taken on the adoption of the first resolution, and it was carried by a vote of 34 to 16—the whole number of Fellows of the Academy being over one hundred. The Academy then adjourned.

—Monday, the first of March last, was the occasion of the first presentation of the two prizes offered by James R. Wood, M. D., for the best anatomical or surgical preparation, to be presented to the Bellevue Hospital, from the three schools of medicine in this city. Dr. Valentine Mott, who was assigned the duty of making the awards, stated that on the Saturday previous a commission had been appointed, consisting of the professors of anatomy and surgery in the three medical schools in this city, to examine the different specimens of surgical anatomy which had been prepared under the offer of Dr. Wood. They had performed their duty, which they had found most agreeable, and they had met now to render their decision. He spoke in high

terms of Dr. Wood as a medical man and brother surgeon, and the noble object which had incited him to make the offer of these prizes. He alluded to the value of anatomical surgery, and the great advances that had been made in that art since he first began to teach it in Columbia College in 1809. Taking a retrospective view of this department of science, he referred to the eminent labors of Cooper, Burns, Velpeau, and many others; and then, in terms of warm eulogy, directed attention to the very beautiful preparations to which the commission had awarded the prizes.

The first prize, of fifty dollars, was awarded to George F. Shrady, since a graduate of the Collège of Physicians and Surgeons, Twenty-third Street. Dr. Mott stated that he had seen a great many dissections, and had made many himself, but he was willing to say that, not in his own museum, nor any where that he knew of, was there any specimen where so many branches of the trifacial and seventh pair had been followed up to their extreme ramifications as were exhibited in this specimen, which, he said, did infinite honor to the gentleman, and credit to the age in which we live; and furthermore, that he should have been proud to have been the maker of that specimen himself. As an old man, who for fifty years had been interested in this subject, he expressed his conviction of a high and glorious future before its maker.

Dr. Shrady's preparation consists of the upper half of the body of a baboon, with the nerves and vessels of that part. The calvarium is sawn off, exposing the twelve pairs of nerves entering the foramina, at the base of the skull. On one side of the face is a beautiful dissection of the seventh pair, with its inosculations with the fifth and anterior cervical nerves. The other side of the face exhibits also the seventh pair, through the intricate meshes of which is seen the fifth pair complete, not even omitting Meckel's ganglion. The head is thrown back, to show the nerves in the anterior cervical region, with its vessels. The anterior cervical nerves are very elaborately dissected, constituting one mass of fibres on each side of the neck. The posterior cervical, also, shows to great advantage. In the chest, we notice the sympathetic, phrenic, pneumogastric, and intercostal nerves. Also the position of great vessels coming from the heart. The brachial plexus is followed down to the bend of the elbow. Dr. Shrady is now at the New York Hospital, as senior walker to the surgical division.

The second prize, of twenty-five dollars, was awarded to George E. Post, of the University Medical College. It consisted of a prepara-

tion of the sympathetic of the head and neck, with its connections with the nerves of that part of the body. The specimen is small, but shows a great amount of labor spent upon it, by the minuteness with which the dissection is carried out.

These prizes were accompanied by beautiful testimonials, signed by all the members of the commission—Drs. V. Mott, A. H. Stevens, W. Parker, R. Watts, A. C. Post, W. H. Van Buren, E. R. Peaslee, and T. C. Childs. The awards were received with loud applause.

Dr. J. W. Francis then rose, at the request of Dr. Mott, and addressed the audience at some length. He traced the history of preservative anatomy, as he called it, from the time of the celebrated Ruysch, of Amsterdam, who began to practice it in 1630, down to our own days. Ruysch, he said, died at the age of 93, a marvel to all who passed through Holland, after having labored in his art for more than 60 years, and for many hours a day. The czar, Peter the Great, repeatedly left Russia to come to Holland to admire his specimens, and take his breakfast with him; and, as the story goes, they generally had a blow-out together before they parted. [Laughter.] The czar offered Ruysch £25,000 for his museum. The offer was accepted, and Holland had to part with that magnificent possession. But Ruysch, though in his 60th year, set to work again. Having an active son and a wonderfully clever anatomical daughter, who dissected every thing, no matter what, he recommenced his labors, and soon accumulated a new museum. It was a singular fact that, in all their physical investigations, these old professors always had their children at their elbows. The very illustrations for Blumenbach's anatomical dissertations were made by his daughter, a tall, raw-boned girl. This mode of instruction was adopted about 1677–1700–1710. Paris closely followed Holland, and Edinburgh adopted it soon after Paris. About thirty years after Monroe began in Edinburgh, Hunter made anatomical preparations in Rhode Island. Philadelphia, though she had now a good collection, was the last of all the American cities to exhibit any enterprise in this regard. In coming to New York, we found that Dr. Post had brought out to this country a large collection particularly illustrating the absorbent system, because he had studied under Cruikshanks, who wrote on absorbents. He also brought out many specimens of vascular preparations, because he had also been a student of John Hunter. But why did he not bring out some of the remarkable specimens of John Sheldon, another of the teachers? The reason was that Sheldon kept the peculiar secret of his art to himself, just as Ruysch did. There was a plan adopted by these men of giv-

ing a color and efflorescence to the skin of the subject, which the moderns do not seem to understand. John Sheldon had fallen in love with and married a very beautiful lady, who died. He was determined not to part with her, even though death had occurred, and he had her made into a preparation, and for more than thirty years this beautiful anatomical specimen, fresh as in life, was preserved by him. Sheldon died in the year 1800, Professor of the Anatomy of Painting to the Royal Academy of Arts, having succeeded the Hunters. In a book of travels, written by Dr. Mott thirty years ago, he (Dr. F.) remembered to have seen an account of a famous Italian anatomist, Segatto, who possessed the secret of making human flesh as hard as stone, so that he was able to make a mosaic table out of different pieces! Dr. Francis, after pursuing this subject somewhat further, concluded by expressing the hope that fortune might smile on all the young men who surrounded him; and he trusted that they would be as familiar with the subject of their studies as was Dr. Post, who, when a preparation was forced on his attention in a Parisian hospital, as being one extremely well done, remarked, "Yes, it is extremely well done, but I am sorry to see the artery on the wrong side!"

Prof. Smith, of the College of Physicians and Surgeons, (23d Street,) made a few appropriate remarks, after which Dr. G. T. Elliot followed, and stated that he contemplated offering prizes for anatomical preparations in connection with obstetrics.

Dr. James R. Wood concluded the exercises, by remarking that the occasion was one of peculiar satisfaction to him. He was glad that he was seconded by Dr. Elliot, in connection with his offer for the prizes, and hoped in time to have a museum for Bellevue Hospital equal to any in the world. In referring to Dr. Shrady's specimen, he stated that it was nine months in preparing, but during that time the author had suffered severely from typhus fever, brought on by excessive application to the work; but it was a glorious effort, and would remain in the halls of the museum an honor and credit to the talented projector.

Dr. Mott called attention to the excellence of the other specimens presented, and he eulogized particularly the one by Mr. Bromley, of the New York Medical College, (13th Street,) and another by Mr. George K. Smith, of Broome County, N. Y., of the University of New York.

—The discussion upon puerperal fever, in the Academy of Medicine in this city, has attracted the attention of the more dignified, learned, and distinguished Academy of Paris. For this thanks ought to be given to the MONTHLY, (we are not very sanguine of receiving them,) which has published full reports of the discussion, and sent them to Europe. The result of the French discussion, which is commenced in our last exchanges, will be given by us as soon as it is received, and that, we have no doubt, will be long before our own society drags its slow length along to completing its undertaking. Meantime, as our friends in Paris are at a loss to know precisely what plant is spoken of by us under the name of *Veratrum Viride*, we copy its botanical description. In copying Dr. Vedder's case of puerperal fever, from the January number of the MONTHLY, the editor says: "It is undoubtedly the plant which we here designate by the name of green hellebore, (*helleborus viridis*,) of the genus hellebore, family ranunculaceæ." The learned editor is here in an error. The *veratrum viride* is indigenous to this country, and found from Canada to Carolina. It is of the same class (melanthaceæ) with colchicum, and may perhaps be more easily identified by European botanists by this technical description:

Order, Melanthaceæ—genus, *Veratrum*.

Flowers monœcious-polygamous; perianth deeply 6-parted, spreading; stamens 6, inserted on the receptacle; ovaries 3, united at base, often abortive; styles short; capsule 3, connate, many-seeded.

Lat. *vere, atrum*, truly black; alluding to the color of the root. Leaves alternate, plicate. Panicle terminal. Segments of the perianth sessile and without glands.

V. VIRIDE.

Leaves broad-oval, acuminate; *panicle* compound, racemose; *bracts* oblong-lanceolate, bracteoles longer than the downy pedicels. A large-leaved, coarse-looking plant, of our meadows and swamps. Root large, fleshy, with numerous long fibres. Stem 2; 4 feet high, striate and pubescent. Leaves strongly nerved and plaited, the lowest near a foot long and half as wide, sheathing at the base. Flowers numerous, green, in many axillary (or bracted) racemes, which together form a very large, pyramidal, terminal panicle. It will be seen that this is not the *V. parviflorum* of Michaux.

—We should, with pleasure, answer all the inquiries put to us concerning *Sewing Machines*, if it were in our power. Their name is getting to be legion, and each person needs to select the one that suits. This we can, however, say, that for the last year one of Messrs. Grover & Baker's machines has been an inmate of the family of one of the editors. It is quiet, except when at work, and then makes no

more noise than is necessary; does its work very handsomely and thoroughly; is not apt to get out of order; and, if it was impossible to replace it, would not now be spared on any condition. At present, we are making some investigations concerning other machines, and this much is already apparent, viz., that one must *learn* to use them, and not expect to be skillful at once, without having the necessary tuition. A person might just as well expect to run a locomotive when he had no knowledge of machinery.

—*Utile cum dulce.*—The useful with the agreeable, ought to be a motto conscientiously remembered by druggists and physicians in the compounding of prescriptions. We say it *ought* to be so, but are, at the same time, very certain that it is not. This does not hold good, however, of the preparation of Calisaya Bark, advertised by Messrs. Hegeman & Co. It is about two years since we first used it, and having ordered it for a large number of patients, feel authorized to speak of its excellence. It is a peculiarly agreeable medicine, pleasing the most fastidious, and yet possesses striking virtues as a tonic. For children, it is particularly adapted; while adults prefer it to the ordinary tinctures. To physicians, in this city, it has already come to be a necessity.

—*University of Maryland.*—Several changes have been made in the Faculty of this venerable school, at the end of the Lectures for 1857–8. Prof. R. H. Thomas resigned the Chair of Obstetrics, which he has held for some years, in consequence of ill health. This chair was filled by the appointment of Prof. G. W. Miltenberger, formerly Professor of Materia Medica and Therapeutics in the same school, and the vacancy occasioned by his transfer was filled by the election of Prof. Charles Frick, M.D.

—Mayor Tiemann has vetoed the resolution of the Common Council of this city, directing the Counsel of the Corporation to apply to the Legislature for the passage of an Act for authority to give a site for a building to the State Woman's Hospital. This site was the block of ground lying between Fourth Avenue, Lexington Avenue, Forty-ninth and Fiftieth Streets. He vetoed it with pain and regret, as his sympathy was with the institution. He would approve of any donation to this hospital, or any other began method by which the Common Council could afford relief to this charity.

—Dr. F. Eve has retired from the *Nashville Journal of Medicine*, and Dr. R. C. Foster, 4th, and Dr. George S. Blackie, have joined Prof. Bowling, the remaining editor, in conducting this excellent journal.

—The Eleventh Annual Meeting of the American Medical Association, will be held in the City of Washington, on Tuesday, May 4th. The secretaries of all societies, and other bodies entitled to representation in the association, are requested to forward to the secretary, Dr. Alexander J. Semmes, corrected lists of their delegates as soon as they may be appointed.

—A new Journal is announced to appear in Paris, to be edited by Dr. E. Brown-Séquard, assisted by Drs. Robin and Tholozan. It is to be quarterly, of about 200 pages, and will be principally devoted to original articles, analyses of papers, and recent researches in physiological science.

—*Phosphate of Lime*.—Saint-Lager, of Lyons, has been experimenting as to the best form of this article for internal administration. It may be given in the three forms—of calcined bones, *precipitated* phosphate, or pulverized bones that have not been calcined. But which of these three forms will most readily enter into the general circulation? He digested, at 36°c., equal quantities of each in solutions, of equal strength, of citric, tartaric, acetic and lactic acids. The organic acid only dissolves a small quantity of the calcined bones, not attacking to a great extent the contained phosphate; whilst bones not calcined, placed in the same conditions, readily yield up their phosphate of lime, as is easily recognized by adding a few drops of ammonia, which will ensure an abundant precipitate. The phosphate of lime, obtained by precipitation, when recently prepared, is very promptly dissolved in these acids; but when old it dissolves slowly, and not as quickly as pulverized bones. Its preparation is somewhat slow, on account of the necessary washing. Saint-Lager thinks, therefore, that rasped or pulverized bones are preferable as sources of phosphate of lime. A. Chevallier considers the *hydrated phosphate of lime* as the only form which should be employed in medicine. He prepares it by dissolving calcined bones in chlorhydric acid, precipitating by potassa, receiving the precipitate on a filter, and washing with a large quantity of water. This should be preserved under a slight stratum of pure water.—*Jour. de Chim. Med.*

—This medical item is from “Brazil and the Brazilians, portrayed in historical and descriptive sketches.” Has the disease ever been described by professional writers?

“At Lameisa I became aware of a new disease, which, like the *girtre*, seems to be confined to certain localities. I was sitting in the office of Dr. ———, conversing in regard to Brazil, when I observed a Portuguese, about sixty years of age, enter, and demand, with

great earnestness, if he thought that he could live. Soon after a middle-aged Brazilian came, and, seeming to cling to the words of the physician as tenaciously as to a divine oracle, made nearly the same interrogatory. Neither of these men appeared in ill health, and, if I had not heard them state that they had great difficulty in swallowing, I would have considered them in a perfect sanitary condition. Upon inquiry, I ascertained from the doctor that these men had a disease which is widely prevalent in some portions of interior Brazil, but he has never seen a notice of it in any medical work whatever. The Brazilians call it *mal de engasgo*. The first indication of its existence is a difficulty of swallowing. The patient can swallow dry substances better than fluids. Wine or milk can be drunk with more facility than water, still both are attended with difficulty; to take thin broth is an impossibility. In some cases fluids have been conveyed to the stomach in connection with some solid. The person thus afflicted appears to be in good health, but in five or six years death ensues from actual starvation. The suffering of such a one was described to me as most horrible."

—*Cystitis treated by Benzoic Acid*.—In a very marked case of severe inflammation of the bladder, (cystitis,) attended with very offensive ammoniacal urine, in one of Mr. Lloyd's wards at St. Bartholomew's, we were particularly struck recently by the improvement produced by the use of benzoic acid, or rather tinct. benzoin co. The former medicine is easily given in mucilage of linseed, and has been found very valuable in checking the ammoniacal tendency of the urine in enlarged prostates. Decoction of uva ursi and hops is also a useful combination; or decoction of pareira brava, with tincture of buchu. Mr. Lloyd has had a very large experience in these cases, as in his earlier days he used to assist Mr. Abernethy in passing the catheter for some of his patients, when that celebrated surgeon was unable to attend. The benzoic acid he believes to be a decided advantage.

—St. Luke's will, we learn, be partially opened this spring, under the medical direction of Dr. Eigenbrodt as resident physician.

—*Erratum*.—The proof of Prof. Frick's article was delayed so long by accidents and the post office, that the article was sent to press without his corrections. Our readers will please make these corrections: On page 247, line 29, read *Parkes*, instead of *Parker*; and in line 30, read *elimination*, instead of *diminution*. In the last line of p. 248, read *Garrod* for *Gornod*. Page 250, line 2, read *non* for *man's*. Page 253, *relation* of, for *relative*.

THE AMERICAN MEDICAL MONTHLY.

M A Y, 1858.

ESSAYS, MONOGRAPHS, AND CASES.

The Yellow Fever at Port au Prince. By G. VAN ARCKEN, M.D.

Yellow Fever is a disease whose occurrence is limited to certain districts and to certain times of the year; a long-continued temperature of from 75° to 90° F. favors its appearance and increases its ravages. In cold and temperate climates it appears generally towards the end of summer, and is suddenly cut short upon the setting in of cold. In the tropics its usual time is at the commencement of the dry season. It is hardly ever met with north of 42° , either because the heat of the summer is not intense enough, and does not continue a sufficient length of time, or because there are other concomitant causes necessary for its production that are not present.

Yellow Fever presents itself by preference in large cities and ports, and at all places where a large number of human beings are congregated into a small space. It occurs periodically at most places; still, there are some where its ravages never cease, and are only influenced by the presence or absence of the human material.

The worst of these latter places is no doubt Port au Prince, in Hayti, which has of late acquired the not very enviable reputation of the "*grave-yard of the whites*;" and it is to the Yellow Fever at that place that these remarks in particular apply.

The different epidemics of yellow fever, such as we have them upon the strength of the testimony of medical witnesses, appear to have been marked by individual symptoms of a very different character. The effluvia and miasmata generated amongst the houses of a large mass of people, together with the heat of a tropical climate, may have given them either a bilious or a typhoid character, and a scorbutic tendency may also have considerably modified their character and severity.

Owing to the different constitutions, the method of living, and the peculiar susceptibility of some persons, yellow fever may assume all grades of violence, from a slight indisposition to the most fatal form. An attack of yellow fever is sometimes preceded by the usual febrile symptoms, but more frequently it comes on without any warning whatever.

There is generally some chilliness at the beginning, and the duration and violence of this is often a sure indication of the character of the disease, and of the remedies that must be employed; the case being a slight one and easily managed if the chilliness has amounted to a rigor. In some cases there is no chilliness at all, and these should, however slight they appear, always be viewed with suspicion. Among the most constant symptoms are, a deep-seated and severe pain in the supra-orbital region, and a weakness in the back and limbs, amounting sometimes to a sort of spasmodic pain.

When febrile action has fairly set in, the skin is found to be hot and dry, the respiration hurried, the face flushed, and the eyes red and watery. The tongue is mostly covered with a thick white fur, and the throat occasionally sore.

In the majority of slight cases there is more or less vomiting from the beginning, the ejected matter being of a decidedly bilious character, although the later vomitings sometimes have the appearance of boiled barley water. But in fatal cases the gastric symptoms are not fully developed until about forty-eight hours afterwards, when frequently the black vomit all of a sudden makes its appearance.

Patients complain sometimes, from the beginning, about a feeling of weight and oppression in the epigastrium. When examined, that region is found to be very sensitive upon the slightest pressure. In a generality of these cases, the stomach rejects everything that is swallowed. At this time the bowels are mostly very costive, and when at last discharges are obtained, they are of an unhealthy character, and very offensive. The mind of the patient is usually very much disturbed; he is apprehensive and restless, and his countenance is strongly marked with these feelings. Delirium is not an uncommon symptom;

it amounts sometimes to maniacal violence, but it soon gives way to a deep coma.

These symptoms, indicative of the first stage, continue mostly from two to four days, and then a great apparent amelioration is experienced. The pulse becomes nearly natural, the respiration calm, and the pains in the head, back, and limbs disappear almost entirely. At this stage of the disease, it is not uncommon to find the patient sitting up in bed, and perfectly confident of recovery; but, unfortunately, this is only a temporary calm; the fever still continues internally with unabated violence, and the partial subsidence of its outward symptoms only shows the inability of the system to struggle any longer against its powerful enemy.

To distinguish this stage from a genuine convalescence, it is only necessary to make slight pressure over the epigastrium, when great tenderness will be discovered, and very often a hard lump, of the size of a goose egg, may be felt there, distinctly pulsating, although these pulsations cannot be attributed to pressure of the stomach upon the abdominal aorta, the pulsations not being synchronous with the contractions of the heart. The redness of the eye has now changed to a yellow or orange color. A pale violet or bluish color sometimes shows itself on the forehead and cheeks, extending in some cases over the whole body. It is owing to a stagnation of the blood in the capillaries. The pulse is lower than in health; it falls to fifty pulsations per minute, and sometimes less. These symptoms continue for about twenty-four hours; but in fatal cases they make place in a few hours for a quite different class of phenomena, to wit: extreme debility and prostration.

The pulse now becomes frequent and irregular, forming distinctly marked intermissions. The tongue is dry and brown, and its edges red; and on the teeth and gums appears a deposit peculiar to typhoid diseases—I mean the formation of sordes.

The stomach is now exceedingly tender; everything swallowed is thrown up again, and with it a matter consisting of black flakes and particles, floating in a colorless or slightly yellow liquid, which ultimately becomes opaque and black.

The heart and large vessels, especially the carotids, are beating violently, the already mentioned epigastric pulsation increases, and still at the wrist the pulse is almost imperceptible.

The urine becomes very scanty now, often entirely suppressed; hæmorrhage takes place from the mucous membranes, and blood is not unfrequently vomited up, and discharged by stool.

The extreme restlessness of the first or febrile stage has now given way to a gloomy indifference. The pulse gradually ceases, hiccough sets in, the skin becomes cold and clammy, the body exhales an offensive odor, and death takes place quietly or amidst convulsions.

In slight cases, after the febrile symptoms have passed off, a gradual improvement in the state of the stomach, a general perspiration, or the discharge of a dark brown urine, show that the vital energies are not yet exhausted. After this convalescence takes place, either with typhoid symptoms, or more frequently without them.

This is the ordinary course of the fever; but, as I have stated before, it is liable to great diversity. The febrile action of the first stage may be inflammatory, with a strong and full pulse, or typhoid and asthenic; in which case the pulse is, from the beginning, very feeble and frequent. In this latter case the general prostration is such as to warrant the assumption that the patient has received his death blow at the beginning.

The most prominent symptoms of this malignant state are: a general weakness, with a sense of stupefaction in the head; pain in the back and inferior extremities; a very feeble pulse at the wrist, while the carotids beat violently; a pale and purplish face, and a countenance expressive either of gloomy indifference, or of intense horror and agony.

Sometimes the patient has been suddenly struck down in the midst of apparent health, with symptoms of overwhelming precordial oppression. When examined, his pulse is found to be very weak, or entirely absent. In such cases the tongue may be clear, and the pulse almost natural; still the great restlessness of the patient gives cause for alarm, which is soon confirmed by black vomit, convulsions, and death.

The expression of the countenance in this disease is peculiar, and by carefully observing it the practitioner may often see clearly depicted in it, what a sulky or cross patient does not want to acknowledge. From the beginning of the fever the white of the eye is reddened, and appears as if bloodshot. The forehead and cheeks have at the same time an unnatural red color, which is found in no other disease so strikingly as in this. The color, as also the redness of the eye, gradually gives way to a deep yellow or orange.

The black vomit, the most striking symptom of this disease, mostly makes its appearance on the third or fourth day, although it is by no means a universal symptom; for plenty of cases prove fatal without its occurrence. It was formerly thought to be black bile; but at

present the most generally admitted opinion is, that it is blood thrown out to relieve the congested and inflamed vessels, and which has been altered by the acid of the stomach.

Still, the blood must undergo some changes in making its exit from the capillaries; for were it simply blood altered by the action of acid, it should return to the state of natural blood upon the exhibition of magnesia, instead of remaining unaltered. Black vomit separates, upon standing, into two parts—an insoluble black matter, like coffee grounds, which subsides, and a clear liquid; the first is the altered coagulable matter of the blood—the liquid, the serum.

According to some authors, animalculæ of the genus *Acarus* have been discovered by means of the microscope in the black vomit very recently ejected; the same has been said of the vomitings and evacuations in cases of Asiatic cholera. It remains yet to be seen whether this will assist in clearing up the obscure nature of the yellow fever. There is, however, no doubt that the black vomit is essentially disintegrated blood.

Great diversity of opinion exists as to whether the cause of yellow fever is a peculiar and specific one. It has also been said that the nature of bilious and yellow fever is essentially the same, and that the latter is only an aggravated form of the former. But the authors of those statements undoubtedly have never seen the yellow fever at Port au Prince, or they would have been convinced that bilious fever, typhus, and yellow fever may exist at the same time, aye in the same hour, and still there be to the experienced physician not the least trouble in drawing an exact line of demarcation between them.

The predominance of the gastro-bilious symptoms in slight cases, and of those of malignant typhus in the fatal ones, has suggested to me the idea that yellow fever might be a combination grown out of gastro-bilious fevers on one side and a malignant typhus on the other; and that according as the one or the other is predominant the character of the disease changes.

Another question of some importance is, whether yellow fever is to be considered contagious or not. With regard to this I have only to state, that during the time that I have practised in the West Indies and on the Spanish Main, I have never seen anything which could convince me of the contagious nature of yellow fever, and I would just as soon admit intermittent fever to be contagious.

The diagnosis of yellow fever is not attended with many difficulties. In the beginning, the redness of the eye, the white-coated tongue, together with the pains in the back and limbs, and the bluish color of

the forehead and cheeks, afford plenty of cause to suspect the true nature of the disease, and the black vomit soon comes and dissipates any doubt that may have remained.

The prognosis is more difficult, and it requires some experience to distinguish between slight and fatal cases, especially in the beginning.

Among the most unfavorable symptoms are excruciating pains in the back, limbs and forehead, great feebleness of the pulse, sometimes an entire absence, a bronze color of the face, bloodshot eyes, together with extreme restlessness, epigastric tenderness, black vomit, and suppression of the urine.

The favorable symptoms are, first, the absence of any of the above mentioned ; then a prolonged continuance of the primary fever, which subsides only gradually, and under the effect of a general diaphoresis, the passing dark brown urine, salivation, a gradual clearing of the tongue, and a diminution of thirst, and epigastric tenderness.

Much has been said about the treatment of this most malignant disease, and books have been written to prove the good effects of this or that medicine, which may not have proved by far as effective in all hands, as was at first anticipated. Bleeding has had its partizans, and the employment of emetics and strong purges also ; I have never liked either.

As I make especial reference to the yellow fever at Port au Prince, I shall abstain from all speculations on this subject, and limit myself to giving a description of the method of treatment which has proved most successful in my hands at that place.

Port au Prince is the capital of the negro Empire of Hayti, of which at present a certain Soulouque calls himself the Emperor and autocrat. Only colored people are allowed to settle on the island, and only in the seaports an exception is made in favor of a few foreigners, most of whom are merchants. But these, having been for a long time residents on the island, have consequently already become acclimated; the only subjects, then, who are exposed to an attack of fever, are the crews of foreign vessels, of which there arrive yearly about three hundred at Port au Prince. My position as physician to the American Consulate made it my duty to attend to them. It will thus be seen that all my patients were strong and able-bodied men, mostly from twenty to thirty-five years of age, about half of them being Americans, and the other half from the different commercial nations of Europe.

When called to a patient, my first care is to decide, whether it is a case of an inflammatory, or of a typhoid character.

The inflammatory cases may generally be known by the full and strong pulse, which seldom runs above one hundred to one hundred and five per minute ; the tongue is covered with a white or slight yellow fur, the taste in the mouth is very foul, with an occasional feeling of soreness in the throat. There is usually some pain in the head, and also a peculiar giddiness, together with a weakness in the back and limbs.

The typhoid or asthenic cases are characterized by a very frequent and feeble pulse, which sometimes makes regular intermissions from the outset. The tongue is either natural or covered with a white fur. The patient complains of intense pains all over his body, and his head feels, as some have told me, like an empty paper box. The eyes are very much bloodshot, and in the whole countenance there is depicted an intense feeling of horror and agony. In these cases the bowels are generally obstinately costive from the beginning, and the stomach very tender.

As soon as I make a case out to be of the inflammatory kind, I administer thirty grains of calomel, which I place dry upon the tongue, and allow only a few spoonfuls of water to swallow it. To obtain a mercurial action being my object, I give then every two hours from one to two grains of calomel, which I continue for two days. In cases of yellow fever it is a most difficult thing to obtain a mercurial action, the process of absorption having entirely ceased; I generally continue the mercury for about forty-eight hours, and then stop, having found it entirely useless to continue any longer. Salivation, if it takes place, will do so within thirty-six hours, and there is no danger at all of discontinuing it, as soon as it occurs. To allay the frequent desire for cold drinks, I let the patient take small quantities of grateful acid drinks, such as tamarind water, or cream of tartar lemonade. If the bowels have been costive, I also prescribe several purgative clysters, composed of castor oil, common salt, and tepid water.

On the next day, the patient having had several stools, feels himself considerably relieved, and now I make a careful examination of the epigastric and right hypochondriac region, and if upon pressure there I find the least tenderness, or anything like a pulsation, I immediately order a dozen leeches to be put around the anus. After this a tepid bath is given, and then a large emollient poultice applied to the stomach.

With this the patient passes the second day well, and on the next morning ten grains each of calomel and quinine are again given.

On the morning of the fourth day I usually give again ten grains of

quinine, but this time combined with one grain of powdered opium, partly to procure sleep, but more especially for the purpose of bringing about a general diaphoresis, which is then kept up by small doses of liquid acetate of ammonia. On the next day the patient is allowed a cup of weak soup, and also to sit up for a few hours. After this, all the medicine I give is an occasional dose of citrate of magnesia, to keep the bowels loose ; and at the end of eight or ten days the patient is well enough to go to work again.

But matters do not always progress so favorably. Frequently on the third day I find the epigastrium very tender, and the patient evinces a tendency to vomit. Upon this I apply from six to ten wet cups to the seat of pain, and wait then a few hours to see the effect. If the tenderness diminishes, I go on with the already given method; but if it increases, I immediately put two large blisters to the inside of the thighs. Blisters have at such a critical moment often worked like a charm, calming the tenderness of the stomach, breaking up the fever, and restoring the interrupted equilibrium between peripheral and abdominal nervous sensibility.

But to be productive of such good, they must be applied in time, and before the black vomit sets in ; if this has once taken place, they hardly ever do any good, and always torment and exasperate the patient very much.

Should the blisters not produce the desired effect, and the disease proceed to black vomit, then I follow the treatment hereafter to be specified.

Cases of a typhoid character are easily distinguished, and, as a matter of course, require a method of treatment altogether different. The nervous system being from the beginning evidently broken down, it requires a powerful remedy, acting at once as a sedative and tonic, to assist the system in rallying from under the first blow of the disease. This medicine we have in the sulphate of quinine. But to be productive of good it must be given immediately, and in very large doses. If the stomach is still quiet, I give immediately about thirty grains in about half a dozen spoonfuls of coffee, without either sugar or milk.

If given in this vehicle, I have found it to sit better on the stomach than in any other. But should the state of the stomach not admit of any medicine being given internally, then I dissolve sixty grains of quinine in one ounce of sulphuric ether, with the addition of two drachms of liquor ammonia, and have this rubbed in under the arm-pits and over the whole abdomen about three times during the day.

If the bowels be costive, the already mentioned purgative enema should also be administered.

On the following day the patient frequently feels himself better; if formerly not successful, quinine will now mostly stay on the stomach; but whether it does or not, the external application of it should by no means be forgotten, but repeated in about half the strength of the day before.

During this day the symptoms of epigastric tenderness return frequently more intense than ever; they should be immediately combatted by leeches to the anus and (no cupping in these cases) hot fomentations to the seat of pain, putting them on as warm as the patient can bear them, changing them at least every fifteen minutes.

Should this not have the desired effect, then blisters must be resorted to, under whose action either an abundant discharge of dark brown urine takes place, or a slight diaphoresis appears, which has then to be encouraged by opiates, etc. Still, in a great many cases all these remedies prove in vain, and the so much dreaded black vomit makes at length its appearance.

To combat this, I have ransacked all the known and recommended remedies, and given them all a trial; but, from gum kino to acetate of lead and nitrate of silver, none has succeeded in my hands. Thrown back upon my own resources, I resolved to try the corrosive sublimate, and I am happy to say that seven people, who had the black vomit, recovered under the effect of this remedy.

To employ it, I proceed in the following way: Six grains of bi-chloride of mercury are dissolved in two ounces of pure water, with the addition of twelve drops of muriatic acid. A small teaspoonful, (one of those manufactured out of horn or ivory for the use of children,) and which may contain about a drachm and a half, is my usual dose.

I commence with making the patient drink about half a cupful of tepid water, with a little common salt in it; this has the effect of causing him to vomit immediately, and thereby cleaning the stomach effectually; I then make him open his mouth and let the mentioned solution run down drop by drop in his throat.

It generally causes a slight burning sensation in the stomach, for which I always have an emollient poultice ready, which soon relieves it; and directly after this has been effected, I order a purgative clyster to be administered, for the purpose of assisting in checking the vomiting.

This same process has to be repeated, according to the urgency of the symptoms, every two or three hours.

If it proves effectual, it will do so after three or four doses have been taken; in such cases the vomitings assume first a brown mahogany color, which gradually goes over to a greenish opaque, until they cease altogether and the matter is passed off by the bowels.

The black vomit, if it does not yield to remedies, continues from two to four days, after which it spontaneously ceases.

Then commences the last or true typhoid state of the fever, which, in most cases is followed soon by convulsions and death. But in some cases the disease has run its course so quickly, that the system is not yet entirely broken down.

The patient is mostly found to lay in a half-inclined position. He complains of no pain, except in the forehead; but says, to use a sailor's expression, that he is as weak as a new-born baby.

A nutritious diet should now be ordered, together with wine and water and other stimulants, according to the degree of prostration.

In some cases the carbonate of ammonia in an emulsion of gum arabic is sufficient, while in others egg punch and brandy, together with tincture of musk, must be resorted to.

The oil of turpentine, so much lauded by some practitioners as an alterative to the mucous membrane of the stomach, may now be employed.

Sulphate of quinine in small doses may now be administered with very good effect, and the whole must be conducted upon the principles laid down for the treatment of the latter stage of malignant typhus fever.

The wandering pains that are now frequently felt all through the body are generally relieved by slight frictions with some aromatic spirits, which, to make it feel more comfortable, may be slightly warmed. Frictions, besides, produce very good effects all through the course of yellow fever.

At this stage patients may remain in pretty much the same condition for fifteen or twenty days; still it should be recollected that every additional day brings also additional hope.

The greatest care is now necessary to guard the patient against imprudence in diet; it should be kept strongly impressed upon the mind of the nurses that he needs a generous and nutritious diet; but crude things, for which sailors have always a strong liking, should be scrupulously avoided, for a single mistake of this kind is sufficient to bring on a sudden and fatal relapse, followed in a few hours by convulsions and death.

I have sometimes been called to patients, when, after the most careful examination, I could not decide as to whether it was an inflammatory or asthenic case, the distinguishing symptoms being equally strong on either side. Experience has taught me to regard these cases as of a most fatal malignancy. Quinine should be immediately given in large

doses, and the case treated on the most active principles possible; for the black vomit sometimes makes its appearance only twenty-four hours after the patient is taken sick.

With regard to the prevention of yellow fever at Port au Prince, a great deal might be done by keeping the city and harbor clean; but to clean them effectually at present, would be a job worse than the one Hercules had in cleaning the cow stables of King Augean.

Cleanliness may mitigate the violence of the fever; but some will undoubtedly be always present.

A great deal may also be done by paying attention to the selection of sailors for a trip to Port au Prince; none should be taken under twenty-eight or thirty years of age. These resist the fever the best, and, if taken sick, have a fair chance of recovering.

All the nationalities are alike subject to the fever; still the Americans have a better chance of recovery than any other, and the worst cases are found among the Germans, Swedish, Danes, and Irish.

The French, Spanish, Italians, and Belgians hold about the middle rank.

The fever appears to have a particular liking for cabin boys; out of twenty that are taken sick, hardly one recovers.

During my stay at Port au Prince I attended two hundred and forty-three cases of yellow fever.

Of these, forty-eight had the black vomit, of which number only seven recovered. Eleven more died without having the black vomit, making the number of deaths in the whole number of two hundred and forty-three, just fifty-two.

Of the fifty-two that died, only fourteen were Americans, and of the seven that recovered after having the black vomit, five were Americans. But as among the whole number of patients more than half were born Americans, the chances in their favor are very great, as may be seen from the above stated facts. As another singular fact, I must state that the only cabin boy which I brought over the fever was an American.

Marshall Hall's "Ready Method" in the treatment of Laryngismus.

By WILLIAM C. ROGERS, M.D., Green Island, Albany Co., N.Y.

During the first week of February, 1858, my youngest child, a boy five months old, of robust constitution, and of excellent general health, was suddenly, and without any previous illness or premonitory symptoms, seized with laryngismus and sank back breathless, pulseless, and

convulsed in the hands and feet. I dashed water into his face, and by repeatedly inflating his lungs, and by rubbing vigorously over the spine, succeeded in restoring respiration at the end of about two minutes. He suffered but a very few hours from the effects of the attack, and the next day was as lively and apparently as well as ever. From that time to March 30th, a period of seven weeks, his general health was excellent. On the morning of the 30th he was feverish and troublesome, but not enough so to excite my anxiety, scarcely my attention. In the evening he was more restless, with a high fever, and on examination his gums were found swollen and tense, and his mouth hot and dry. I gave him an anodyne diaphoretic, and finding him much relieved thereby, retired for the night. The child lay next to the wall, looking up to the moon which shone full upon him through the window, and appeared unusually playful, when he was suddenly convulsed in the hands and feet, his head was drawn violently to the left, and his neck flexed upon his shoulder, and without a sound or a motion, which would arouse us had we been asleep, he sank breathless into the pillow. I immediately brought him into the middle of the bed and endeavored to revive him by frictions, by dashing water into his face, and by resorting to artificial respiration, but in vain. He laid there livid, cold, and without a sign of life. His pupils were insensible to the light, and the pulsation of the heart was not to be felt.

At this juncture I gave up all hope, and told my wife that our little one was *dead*, when suddenly the idea of trying Marshall Hall's "Ready Method" occurred to me, and placing him in position, I immediately began to rotate him according to the prescribed rules. I labored perseveringly for about five minutes, when there were signs of returning animation. The color returned to the lips, the lividity of the cheeks gave place to the natural hue, the pulse became faintly perceptible at the wrist, and the joints regained their normal elasticity. But the child was still unable to breathe without assistance, and I therefore continued the "Ready Method" for about five minutes longer, when respiration was so far established as to enable me to attend to a call at the office door. On my return I found that respiration was but imperfectly performed, that each effort was weaker than the one preceeding, and that the patient was fast lapsing into his former lifeless condition. I accordingly again resorted to the "Ready Method," and at the end of four or five minutes had the satisfaction of hearing him cry naturally and lustily. I immediately lanced his gums freely, and gave him small doses of anodynes and antispasmodics. The next day his dejections were light colored, watery, and very offensive,

accompanied with symptoms of bronchial and laryngeal irritation. A grain of blue mass and small doses of syrup of ipecacuanha—the latter continued at intervals for three or four days—and half-drop doses of Magendie's Solution, constituted the treatment until the 4th of April, when I regarded him as entirely well and ceased the administration of all remedies. I should state that for four days the little patient wore the *wet girdle*, i. e., several thicknesses of cloth wrung out of cold water and wrapt about the abdomen, and covered with as many thicknesses of dry cloth—an appliance which I have used in cases of derangement of the bowels with very decided benefit.

To what are we to attribute this last attack of laryngismus? To the swollen and painful gums, to the irritating contents of the bowels, or to the condition of the *primæ viæ* which had produced these latter phenomena? I am at a loss to tell, especially as these symptoms and conditions did not obtain in the first attack. Are we to attribute it to the onset of the very mild bronchitis and laryngitis which was discovered to be present the day following the attack? I can hardly think so, since the disease was in both locations so exceedingly slight as to cause little or no uneasiness. From the phenomena presented during the attack, from the ease with which the air entered into, and passed from, the larynx during the rotation of the patient, and from the rapidly increasing dyspnoea when the "Method" was first discontinued, I am inclined to believe with Prof. Meigs, of Philadelphia, that the disease is really a spasm of the diaphragm, and not of the larynx—a *phrenismus* and not a *laryngismus*.

Tuberculosis and the Medicinal Hypophosphites. By Prof. LEWIS H. STEINER, M.D.

If ever there existed a special *opprobrium medicinae*, it is the disease Tuberculosis. Every man has his own private theory, which is "undoubtedly original," as the venders of old paintings say, and which he rears with the most loving attention—bestowing every care upon its full development into the stateliest form and most attractive proportions. But in order to attain the latter he feeds it with but *one* kind of food, and this is supplied in the most liberal profusion. Anodynes to relieve pain and irritation, oleaginous substances to furnish fuel for the system, which is presumed to be deficient in calefacient material, vapors saturated with terebinthate, aromatic and balsamic substances, and, in domestic practice, *teas*, that are supposed to be wonderfully

efficacious on account of the *vegetable* material they contain. The range is enormous. Each consumption doctor has his own hobby, which he rides with great pride, and which he will wager any amount of money is the swiftest and *surest* horse to bear the practitioner through a victorious combat with the disease. And how hopefully the patient listens to the enthusiasm of his physician, so sanguine and certain as to the successful termination of the case. Alas ! such bright hopes have been all too often destroyed by the invincible disease which seems to elude all the powers of medicinal agents. But the profession does not despair. That the disease shall eventually prove curable there is very little doubt; but how far we are from, or how near to, the announcement of the *sure* mode of its treatment we are unable to state.

Dr. John Francis Churchill has taken up the idea that, "the proximate cause, or at all events an essential condition of tubercular diathesis, is the decrease, in the system, of the phosphorus which it contains in an oxygenizable state, and that the *specific* remedy of the disease consists in the use of a preparation of phosphorus, uniting the two conditions, of being in such a state that it may be directly assimilated, and at the same time at the lowest possible degree of oxydation." He recommends the use of the Hypophosphites as combining, in the most reliable way, these two conditions, and has sent a paper to the Academy of Medicine in Paris, which has been referred to a committee composed of MM. Louis, Trousseau, and Bouillaud.

Before noticing the theory of the action of these salts which Churchill advances, we cannot refrain from remarking how prone we are to accept certain things in medicine as facts, on faith, and then force our reason to recognize every case coming under our observation as an illustration and confirmation of these quasi-facts. We recollect hearing a distinguished zoologist once arguing that a *fish-diet* was the best in the world for a man who had much brain-labor to accomplish, and that when he had an extraordinary amount of mental work to accomplish during the day he experienced the happiest effects from a fish breakfast. The health of this gentleman, at all times, was excellent, but he had determined in his own mind that it must result from this diet. The conclusion had been arrived at from a mere chemical consideration of the subject. The brain fat contains from 1.5 to 2 per cent. of phosphorus, which is supposed in some mysterious way to be connected with the operations of the mental faculties. Active use of the latter must remove some of this material, hence the best food under these circumstances is that which will furnish phosphorus in largest quantities. Liebig had told him that the flesh of fish answered this condi-

tion. Now, what rational physiologist can submit without protest to this mechanico-chemical mode of viewing the subject? And unfortunately for the whole theory, Von Bibra* has shown that "the phosphorus in the brain fat of insane persons does not exceed the main amount; nor does extreme old age modify the quantity. The brain in very young persons, and in the embryo, presents no peculiarity in this respect; * * the amount of phosphorus varies in different brains with the amount of fat, and there is *no* reason to believe that there is any special connection between the intelligence and the amount of phosphorus."

We cannot charge Churchill with any such mere mechanico-chemical theory as to the action of the Hypophosphites, although he seems open to the suspicion of concluding on the *post hoc ergo propter hoc* principle. He says: "the physiological effects produced by the use of the hypophosphites of soda, lime, potash and ammonia, show these preparations to have a two-fold action. On the one hand they increase the principle, whatever that may be, which constitutes nervous force; and on the other, they are the most powerful of hæmatogens, being infinitely superior to all medicines of that class hitherto known. They seem to possess in the highest degree all the therapeutical properties formerly attributed by different observers to phosphorus itself, without any of the danger which attends the use of that substance, and which has caused it to be almost forgotten as a medical agent." But, with this statement of physiological effects, are we prepared to admit as a conclusion their applicability to tuberculosis, and necessarily to conclude, as the gentleman's experience seems to justify him in doing, that "the effect of these salts upon the tubercular diathesis is immediate, all the general symptoms of the disease disappearing with a rapidity which is really marvellous? If the pathological deposit produced by the dis-crazy is of recent formation, if softening has only just set in and does not proceed too rapidly, the tubercles are absorbed and disappear. * * The hypophosphites of soda and lime are certain prophylactics against tubercular disease." Surely such statements should be based upon the treatment of a large number of cases, in all of which marked success, or reasons for failure, should be thoroughly stated. But Dr. C. has *only* treated 35 cases—all "in either the second or third stages of the complaint; that is, they had either softened tubercles or cavities in the lungs." "Of these, nine recovered completely, the physical signs of the disease disappearing altogether in eight out of that number; eleven improved considerably, and fourteen died; one still re-

*Lehmann's Physiolog. Chem., 114, 557.

mains under treatment." From these results of treatment, at the hands of Dr. Churchill, our readers can decide for themselves whether the hypophosphites are specific remedies for the disease.

But whatever may be our conclusions with reference to the claims of Dr. C. for the hypophosphites as sovereign remedies in tuberculosis, there can be no doubt as to the value of these salts as remedial agents. The hypophosphite of soda and lime, which is a mechanical mixture of the two rather than a chemical double salt, seems most preferable. The dose varies from ten grains to one drachm in twenty-four hours.

As peculiarly valuable, in view of the uses which will be made of the hypophosphites, we quote a portion of an article by Prof. Procter, from a late number of a contemporary,* being satisfied that our readers will feel that all the information on this subject which can be collected at present will be important. "*The Hypophosphite of Lime* is the most important of these salts, as it, not only by oxidation in the economy, will afford phosphate of lime in a nascent state if needed, but its reaction with the carbonates of the alkalies gives a ready means of obtaining the alkaline hypophosphites." There are two methods of preparing this substance. First, by dropping *phosphide of calcium* in water, when the decompositions of the two substances result in the evolution of phosphureted hydrogen gas and the formation of the hypophosphite in solution. The second is by boiling lime and phosphorus together. Four pounds of recently burned lime, one pound of phosphorus, and five gallons of water are taken. The lime is slacked with a gallon of water, and the remainder of the water is put in a deep boiler, and as soon as it boils the slacked lime is to be added and mixed to a uniform milk. The phosphorus is now added, and the boiling is to be kept up constantly, adding hot water from time to time, so as to preserve the measure as nearly as may be, until it is all oxidized and combined, and the strong odor of the gas has disappeared. The mixture froths much, and but little of the phosphorus reaches the surface. Then filter the solution through close muslin, wash out that portion retained by the calcareous residue with water, and evaporate the filtrate till reduced to six pints. The concentrated liquid should now be re-filtered, to remove a portion of carbonate of lime which has resulted from the action of the air on the lime in solution, and again evaporated till a pellicle forms, when it may be crystallized by standing in the drying room, or the heat may be continued with stirring till the salt granulates, when it should be introduced into bottles."

* Am. Journ. of Pharmacy, March, 1858.

From this salt, then, hypophosphites of soda, potassa, ammonia and sesquioxide of iron, as well as hypophosphorous acid may be prepared. The salt of iron is not discolored by the tannic acid contained in kramoria, catechu and cinchona, hence it could be associated with Peruvian bark as a tonic and nervous stimulant.

Prof. Procter proposes the following formula for a compound syrup of the Hypophosphites, with a view of meeting "the double purpose to which these salts are directed by Dr. Churchill, viz, the increase of nerve force, and the elevation of the tone of the several functions concerned in alimentation and nutrition:"

Hypophosphite of lime.....	256 grains.
" of soda.....	192 "
" of potassa.....	128 "
" of iron* (recently precipitated) ..	96 "
Hypophosphorous acid solution.....	q. s. or 240 "
White sugar.....	12 ounces.
Extract of vanilla.....	$\frac{1}{2}$ "
Water.....	a sufficient quantity.

"Dissolve the salt of lime, soda and potassa in six ounces of water: put the iron salt in a mortar, and gradually add the solution of hypophosphorous acid till it is dissolved; to this add the solution of the other salts, after it has been rendered slightly acidulous with the same acid, and then water, till the whole measures nine fluid ounces. Dissolve in this the sugar, with heat, and flavor with vanilla. Without flavoring, this syrup is not unpleasant, being slightly saline, and not at all ferruginous. Any other flavoring may be used, as orange peel, orange flower or ginger. It is also suggested to physicians that glycerin may be used, wholly or partially in place of sugar when indicated, six ounces of glycerin being substituted for twelve ounces of sugar. The object of acidulating the saline solution is to decompose any alkaline carbonates which may be present. The dose of this preparation is a teaspoonful three or four times a day. A teaspoonful contains 2 grains of the lime of salt, $1\frac{1}{2}$ of the soda salt, 1 of the potassa salt, and $\frac{3}{4}$ of a grain of the iron salt, besides a little hypophosphorous acid."

L. H. S.

* "This quantity, 96 grains of hypophosphite of iron, is obtained when 128 grains of hypophosphite of soda dissolved in 2 ounces of water is decomposed with a slight excess of solution of persulphate of iron, and the white precipitate well washed on a filter with water."

Puerperal Fever. An abstract of the Discussion at the Paris Academy of Medicine. Collated from the French Journals for the MONTHLY.

The discussion on Puerperal Fever, which has occupied several sittings of the New York Academy of Medicine, during the past year, has elicited considerable attention from our foreign contemporaries. The reports of this discussion, with accompanying papers, which have appeared from time to time in the MONTHLY, have been translated into, and commented upon by the *Gazette Hebdomadaire*. Recently, the Paris Academy of Medicine, for the first time since its organization, has entered upon the consideration of this subject, apropos to a case of death from puerperal fever after abortion, related by M. Guerard.

Although we have occupied much space with this subject, we still consider it of sufficient importance to recur to it by giving an abstract of the discussion in the Paris Academy.

It will be observed that the line of argument is very similar to that adopted by those who conducted the discussion in our own Academy.

M. Guerard opened the debate by calling the attention of his colleagues to three principal points : 1. The nature of the affection; 2. Its mode of propagation; 3. Its treatment.

I. In considering the *nature* of the affection, he referred, merely as a matter of history, to the hypothesis of the retention of the lochia and of the milk as causes of this disease, and then commenced to discuss the two following questions : What effect has local inflammation upon the production of puerperal fever? Is this disease due to purulent infection?

In answer to the first question, it can be said, that puerperal fever has often existed without any local lesion being discovered at the autopsy (in suddenly fatal cases, for example); and in ordinary cases the local lesions do not present that constancy, and that identity which essentially characterize a morbid individuality. For instance, M. Tonnelé in 222 autopsies found peritonitis absent 29 times; metritis, and the lesions of the organs annexed to the womb were absent 25 times; phlebitis and uterine lymphitis 88 times. M. Voillemier in 24 autopsies found uterine phlebitis absent 21 times; lymphitis 22 times; and, according to M. Bourdon, uterine phlebitis was absent 4 times in 5 autopsies.

Can the study of the order of succession of the phenomena lead us to admit the theory of local lesion, as the essential alteration and point of departure for puerperal fever? If this was true the mani-

festations of the local lesions would not only be constant, but they would always precede the appearance of the general symptoms. Is this so? No. For several hours following the expulsion of the foetus, and after birth, pure blood, more or less abundant, flows out, and the lochia do not appear till some time afterwards. But sometimes the disease suddenly arises, either immediately after parturition, or even during labor. The inflammations do not come on till later, when there is time for them to become developed. As the disease continues they increase, and pus is seen to invade, in turn, the peritoneum, the veins, the uterine lymphatics, the ovaries, the pleuræ, the muscles, &c. In fine, these lesions are variable in constancy, in number, and in intensity according to epidemics. For this reason M. Voillemier has defined puerperal fever as "a general disease, the anatomical character of which is the existence of pus in this or that part of the economy."

This definition is not exact, for in sub-acute cases the disease can be developed, pass through its phases, and reach a fatal termination without the least lesion being detected at the autopsy.

These lesions, then, which some consider as the causes of puerperal fever, are, on the contrary, secondary and subordinate to a general cause.

As to the second question, the theory of purulent infection, developed so ably by M. Velpeau, can it resist a severe criticism? We have already seen from the statistics of MM. Tonnelè, Voillemier, and Bourdon, given above, that phlebitis and lymphitis were absent in two-fifths of the cases. M. Duplay has given some reliable observations, which demonstrably prove that phlebitis can exist, and pus fill the uterine veins without producing puerperal fever. The experiments of Gaspard, reported in the first two volumes of Magendie's works, do they not prove that pus can circulate in the veins without producing any serious lesion? Has he not injected as much as eight grammes of pus into the jugular vein of a dog, producing vomitings, fetid urine, and fetid dejections only, the animal recovering the next day? It is true, repeating the experiment with sixteen grammes of fetid pus the animal died in convulsions without having had any dejections. At the autopsy the venous blood was found very coagulable and plastic, the left ventricle of the heart contracted, and a wine-colored spot internally, formed of a concrete pellicle; the other organs healthy.

Some writers, arguing from this last experiment of Gaspard, have attempted to explain the disturbances of innervation in purulent infection by the obstruction in the blood, or lymphatic capillaries, by

globules of pus whose diameter, greater than the blood globules, was not proportioned to the calibre of the smaller vessels. The first experiments of transfusion also seemed to confirm this hypothesis. The recent experiments of Dr. Brown-Séquard, however, show that one can, without danger, inject blood containing globules more voluminous than the blood proper of the animal experimented upon, by performing a previous bleeding. By taking this precaution quite a large quantity of pus can also be injected, without danger, into the veins of animals. M. Felix D'Arcet, who has performed these experiments, has never found in his animals purulent spots characterizing multiple abscesses.

Finally, M. Duplay reports a case of a woman, twenty-seven years old, who died of puerperal fever two days after having entered the hospital, presenting no sign of purulent absorption. Puerperal fever is not due, then, to purulent infection.

If it is easy for me to show the weakness of ancient theories, I hesitate in attempting to resolve the question of the intimate nature of puerperal fever, and state what it is.

Epidemics of puerperal fever, although different from each other, have nevertheless a resemblance, which prevents their being confounded with other diseases.

They present two orders of characteristic symptoms, depending :

1st. Some upon the female in the state of gestation; 2d. Others upon the place in which she lives. The first determine the *form* of the epidemic; the latter the intimate nature of the disease.

The physiological and pathological subordination of the fœtus to the mother has been the subject of important works, which have demonstrated that independently of the modifications of the physiological state during gestation, it also produces certain corresponding morbid tendencies. The observations of M. Trousseau have shown that erysipelas and aptha in infants were more frequent and severe during epidemics of puerperal fever. According to MM. Moreau, P. Dubois, and Danyau, the mortality among the new-born children is greater during the epidemics at the Maternité. McClintock has observed, at the Dublin Lying-in Hospital, an epidemic during which ten out of fourteen patients died; five children died.

M. Lorain establishes in his thesis (de l'état puerperal chez le fœtus et l'enfant nouveau-né, 1855) the morbid union between the mother and child; he shows the disease transmitted to the latter, co-existing in both without any positive order of sequence, or existing in one alone, the lesions differing, or being the same, (peritonitis, puru-

tent infection.) M. Lorain has not found lesions allied to the puerperal condition in the infant before the seventh month. Still, cases exist of women who have died of puerperal fever before this period, an example of which I have seen in the patient attended with M. Depaul, who was attacked at the fifth month.

Can we legitimately conclude from these facts that there is a *virus*, infecting the mother or the child alone, together, or consecutively? This hypothesis of a virus seems a reality when we consider certain facts which lead us to the consideration of the propagation of puerperal fever.

II. Numerous facts seem to establish the great influence of *infection* and *contagion* upon the propagation of this disease. For instance, emigration at the time of an epidemic in a city, or the evacuation of the wards of infected hospitals, are among the best means of preventing the increase of puerperal fever. It is well known that a recent residence in an epidemic neighborhood is more dangerous than a long one, which results in a kind of acclimation. The statements I have already made relative to the increased mortality among infants during an epidemic in large hospitals, sustain the hypothesis of a virus.

Again, the chlorine washes and the careful cleansing of the hands by brushes, prescribed by Dr. Semmelweis, at Vienna, which reduced the mortality from 57 to 12, is a strong argument in favor of contagion. The same results were obtained by Michaelis, at Kiel. M. Depaul has published two cases of puerperal fever, communicated by himself to recently delivered women he had visited, after having performed the post-mortem upon patients who had died of this disease. A young midwife also died of this affection, after having attended a case of puerperal fever.

III. And now as regards the treatment. All the means employed in the treatment of this disease can be classified under four heads. 1st, antiphlogistics; 2d, narcotics; 3d, sulphate of quinine; 4th, ipecacuanha.

Antiphlogistics are never very efficacious, and are sometimes dangerous. Narcotics have been prescribed, but I shall speak here only of opium, which I have used, and which I have often thought was really efficacious in cutting short the progress of the disease. But I am persuaded that, in order to obtain good effects, it is necessary to administer the opium in large doses, and from the commencement of the disease. The sulphate of quinine in puerperal fever has been the subject of an interesting communication from M. Beau, who has stated in this place the fortunate results he has experienced from its use.

M. Leudet, who has made some interesting researches in his services at the Hôtel Dieu, at Rouen, has demonstrated that quinine constituted not only a good curative remedy, but was also one of the best prophylactics. Ipecac has been particularly extolled by Doulcet, who in 1782 obtained most decidedly good results from its use, at Hôtel Dieu. Afterwards its effects were very variable. M. Tonnelè, in his memoir, (*Archives*, 1830,) reports the experiments of Désormeaux; great success for two months, towards the end of October losing its efficacy. He was obliged to discontinue it in November.

We are obliged to recall the precepts of Sydenham, in relation to the therapeutics of epidemics. After having established that epidemic diseases, and especially continued fevers, present from year to year such differences, that an invariable method of treatment cannot be applied to them, Sydenham advises that at the beginning of each new epidemic, notwithstanding its apparent resemblance to those which have preceded it, its true character should be studied and recognized, in order that it may be treated with confidence, and with a certainty of success.

In this formidable affection it is necessary, then, to admit a general cause, which predominates over all idiosyncrasies, and doubtless, also, a treatment varying with all these morbid idiosyncrasies.

M. Depaul then ascended the tribune, and announced that he wished to call the attention of the Academy to the following points:

1st. Does there exist an affection primarily general, to which it is proper to give the name of puerperal fever?

2d. If this disease exists, what are its characteristics? How shall we distinguish it from a great number of other affections which have nothing in common with it, either in respect to their starting point, progress, or frequently their importance, or, in fine, in respect to the remedies which they demand?

3d. What is the value of the therapeutical agents which have been proposed to oppose it in the numerous epidemics which every year ravage special hospitals, and extend sometimes to the practice of cities, and even into the country?

4th. What are the prophylactic means proper to be made use of to prevent, as far as possible, the return of these periodical invasions, which seem to multiply during some years past?

After having added that puerperal fever is more destructive than typhus, typhoid fever and cholera, and having said that time had failed him to digest the reflections which he desired to present on this subject to the Academy, M. Depaul took up the first point—

Does there exist a real puerperal fever? The affirmative answer to this question meets with few opposers at the present day, but the name of puerperal (from the Latin word *puerpera*, lying-in woman) has given rise to great confusion in the mind, by causing us to mistake one for the other, the different important conditions occurring among women after delivery.

As for me, says M. Depaul, who am entirely convinced of the essential nature of the malady, and who accept, without reserve, the opinion of those who make it consist in a primitive alteration of the blood, I would greatly prefer to see adopted the term puerperal typhus or puerperal septæmia.

Puerperal fever, however, has been known from the earliest periods, but from the time of Hippocrates up to the commencement of the 18th century, it was attributed to the suppression of the lochia.

In 1686 Pazos attributed it to the deviation of certain principles of the milk.

In 1781, Ed. Strohter—and not Willis, as has been frequently said—was the first who introduced into science the name of puerperal fever; he located it in the inflammation of the uterus or some other organs, and in that he has been imitated by Burton, Smellie, Th. Cooper, Gorse, Gardien and others. G. Hunter, in 1776, considers peritonitis as the primitive lesion of puerperal fever. Sennert, L. Riviere, Willis, White, etc., regard puerperal fever as a bilious, malignant, putrid fever. Duges, in 1824, and Hinterberger, in 1830, promulgated the opinion that myelitis constituted one of the forms of puerperal fever. In a word, and not to carry this historical sketch too far, we may say, that the authors who have preceded us may be divided into two categories: those who recognize a fever without a local lesion, and those who derive it from a local lesion. There is the same difference at the present time, but we must observe that defenders of the essential nature of the disease are much more numerous among obstetricians and specialists.

The proofs of the essential nature are drawn from the epidemic nature; from the influence of the medical constitution on persons who live in the midst of the epidemic; from the fact that it can attack persons who are in none of the conditions of the puerperal state; from the fact that it may seize upon pregnant women, and kill them before delivery; from the fact that the first symptoms may appear during labor or a few hours after; from the fact that its influence may be exercised even upon infants enclosed in the uterine cavity.

Other proofs are drawn also from pathological anatomy. Thus,

often no lesions are found, and when they are found, they are multiplied in the same woman, and variable (in respect to frequency) in different epidemics.

In order to prove that puerperal fever is transmitted by infection, M. Depaul gives certain statistics of mortality in different hospitals in which there are wards for lying-in women; it results from these statistics that the mortality in the hospitals, wherever they may be, is out of all proportion with the mortality of the poorest and most unfavorably situated quarters. Thus at the Maternité and the Clinique, in 1856, the mortality was 1 out of 19 deliveries, while in the 12th arrondissement it was only 1 out of 322, that is to say, seventeen times less.

But, he adds, the strongest proof of its essential nature, is that the blood is changed, even in the case in which there is no local lesion. All those who have made autopsies are struck,

1. By its slight tendency to coagulation.
2. By its liquid condition.
3. By its gooseberry jelly color violet, tinging the tissues.
4. By its oily consistency.

Although chemical analyses and microscopical researches may not have much advanced the investigation, the following are some results which have been published by Prof. Vogel in the *Manuel de Virchow*:

1. The blood is acid, which is due to the presence of lactic acid.
2. Carbonate of ammonia is found in it.
3. It also contains the sulphhydrate of ammonia.
4. The globules have lost the power of reddening in the air, and can no longer be of use in the act of respiration.
5. The globules were partly decomposed, and dissolved in the serum, which presented a reddish or dirty brown color.

Lehmann (*chimie physiologique*) discovered in the blood the coloring matter of bile; and M. Scanzoni says, that the researches of pathological chemistry have demonstrated in the blood:

1. An increase of fibrin.
2. Sometimes a veritable pyemia (the other elements being nominal).
3. In other cases, a dissolution, or putrid condition, which constitutes the septæmia.

The changing of the blood is therefore certain, adds M. Depaul; as to the real nature of the poison which changes it, it is a mystery thus far impenetrable.

I approach now the second question—Has puerperal typhus peculiar characteristics?

Yes, in the vast majority of cases we may recognize puerperal fever by the following signs:

1. The simultaneous appearance of several symptoms which are peculiar to it, and of which I shall speak, (these are no pathognomic signs.)

2. The period at which they occur: first hours after labor; very rarely after the eighth day.

3. Almost constant chill, unique in many very intense cases, and followed by slight reaction; it rarely fails.

4. Frequency of the pulse, which is rarely below 120, and often as high as 165, small, diffusible, wavering, soon threadlike; rising and falling by turns.

5. The warmth of the skin is moderate, and not in proportion to the acceleration of the circulation.

6. The respiration is short, anxious, broken by profound inspiration. These disturbances may be observed from the commencement.

7. Momentary aberration of the intelligence; hesitation in speech.

8. Marked alteration in features.

9. Pain in the joints at the shoulder, elbows, and wrists.

10. Abdominal pains, very variable as to the period of their intensity.

11. Distention of the stomach, ordinarily considerable, and which may, by obstructing the movements of the diaphragm, hasten death.

12. Abundant diarrhœa, which soon becomes involuntary.

13. Yellowish or greenish vomiting.

14. Suppression of the lochia, and of the secretion of the milk.

15. Finally, we must take into consideration the circumstance, that an epidemic already exists.

Such are the peculiar characteristics of the disease. It can only be confounded—and this mistake moreover is frequent—with purulent infection, putrid fever, and typhoid fever. Purulent infection is distinguished from puerperal fever by the following characteristics:

1. The attack never takes place before the eighth or tenth day, and often it is still later.

2. The chills are multiplied, and followed from the commencement by abundant and viscid sweats recurring several days in succession, at irregular periods.

3. The skin assumes an icteric tint.

4. The urine is fetid.

5. There are abscesses in the cellular tissue, and often pus in the articulations.

6. The disease, *although mortal*, continues from eight to ten days, and sometimes several weeks.

7. At the autopsy we find phlebitis and metastatic abscesses, especially in the lungs and liver.

Putrid resorption and infection may be observed in the puerperal state, in consequence of the retention of the placenta, entirely or in part, and from the putrefaction of the fœtus following rupture of the membranes. It can be distinguished, in a general manner, from puerperal fever, in that,

1. The chills are slight.
2. The tongue is dry and fuliginous.
3. The face sallow.
4. Hectic fever supervenes, and diarrhœa, if the condition continues.
5. In the commencement, hygienic precautions are sufficient to cause cessation of the unfavorable symptoms.

6. The progress of the disease is slower than that of puerperal fever.

As to the typhoid fever occurring among lying-in women, its diagnosis can never give rise to serious difficulties.

In respect to the question of treatment, M. Depaul thus expresses himself: "It is a sad confession to make, but I believe I am within the bounds of truth, in declaring that the treatment of puerperal fever is yet to be discovered." The honorable academician then passed in review all the medicines—and they are numerous—prescribed for this terrible affection. He has tried them all, and all have failed in his hands, as well as in the hands of his teachers. The past year even, invested by M. Dubois with the charge of the *Clinique*, he applied the treatment of sulphate of quinine with which M. Beau had been so successful at the Cochin Hospital; he applied it with the full force of the formula indicated by M. Beau; preceding it with an emetic, giving it alone, in a strong dose, even producing cinchonism—all the patients died.

M. Depaul thinks that the few cases of cure which he has observed have been obtained by the aid of mercurial frictions.

The prophylactic treatment has been tried by medicine, and by hygiene.

The medicines extolled as preventives are very numerous.

In 1750, Ponteau recommended camphor. Doublet associated camphor with quinine. Quinine was also advised by Oziander, 1781, in accordance with the practice of the antiphlogistic method of treatment.

Kino was recommended by Delaroche in 1783; Stoll, considering

puerperal fever as a gastric fever, recommended emetics and purgatives to prevent it; Mauriceau prescribed narcotics; Bonti, ipecac; Levret, ipecac and simarouba; M. Baudelocque, in 1830, recommended the sulphate of quinine; M. Piedagnel, in a communication to the Institute, Nov. 24, 1856, called its attention to two medicaments, the sulphate of quinine and the carbonate of iron.

The *Veratrum viride* appears to have been successfully employed in America by Dr. Barker. This physician has praised this medicine very highly, in a discussion on puerperal fever, before the New York Academy of Medicine. An interesting account of these debates can be found in the *Gazette Hebdomadaire* of Dec. 4, 1857. *Veratrum viride* has not yet been tried in France, as far as I know; it has until now been impossible to procure it in Paris. From information given by Dr. Barker himself, this medicine has, like the sulphate of quinine, a powerful sedative action over the arterial system—so much so, that in an alarming case of puerperal fever the pulse was promptly reduced from 140 to 60 pulsations, and kept during the whole time of the disease below 80.

This list might be extended indefinitely, but it would be useless, for none of them have given any certain result.

As to hygienic means, nursing has been recommended to prevent the metastasis of the milk. White, to prevent the putrid matters from remaining in the genital organs, had his patients walk the first three days after delivery; while MM. Piorry and Malgaigne insist upon the usefulness of repeated detersive injections. The proper conditions of the wards of the hospital, their easy ventilation, have always been considered as indispensable, but, notwithstanding every precaution, epidemics have suddenly risen and proved most disastrous.

In view of these facts, M. Depaul asks if it would not be better to give the needed assistance to the lying-in woman at her own house than to receive her into the hospitals.

J. H. D.

SELECTIONS FROM FRENCH JOURNALS, PREPARED FOR THE *Monthly*.

Notice of a constant Microscopical Characteristic in Blood-spots.

Dr. Coulier, of the *Ecole impériale de médecine et de pharmacie militaire*, read a paper on this subject to the *Académie de Médecine* on the 29th of December last. We extract the following from the notice given in the *Journal de Chimie Médicale*:

The characteristics of fresh blood are so peculiar and distinctive that

it was asserted for a long time they would prove valuable in an examination of blood-spots. Experience has shown the fallacy of this idea. The corpuscles become so altered during their desiccation that it is often impossible to recognize their primitive form, when they are moistened either with water, solutions of sugar, or sulphate of soda. It is true, that we may observe the debris of their walls, but these debris have no such precise characteristics that a certain origin could be assigned them. Still, microscopical examinations of blood-spots may afford other useful indications to the expert, as the corpuscles are not the only solid bodies which are found in such a spot; fibrin and white globules likewise exist there. Before studying the microscopical characters of these two bodies, it will be useful to remark that the material which forms a blood-spot presents, under microscopical examination, a uniformly red color, allowing of its being distinguished with greatest ease from iron rust, occurring in the form of irregular fragments, or from red coloring substances undissolved, though held in suspension, in a colorless liquid, (as cochineal, minium, &c.)

Fibrin, present in a spot of moistened blood, appears under the form of an amorphous body, which seems formed of filaments drawn out in the direction of the last force that has acted upon them. It is very easy to show the elasticity of this substance, simply by holding the object-glass tightly in one hand, and with the other sliding the cover glass gently over it. The fibrin will follow the movements of the latter glass, bending upon itself in different directions. In this way the form of cylinders or elongated spindles may be obtained.

When fibrin is treated with an aqueous solution of iodine, it assumes very readily the yellow color that characterizes nitrogenous bodies.

The white globules, which are always encountered in moderately large quantity in normal human blood, resist much more effectually the action of dryness or moisture, than the red corpuscles. Desiccation does not alter them, and it suffices but to moisten them with a little water in order to exhibit all their properties. In order to recognize these, a drop of water is suffered to fall upon the spot, which is then slightly rubbed after a few moments, with the back of a scalpel. Thus the fragments of fibrin are readily detached for transference to the object-glass.

When the spot is on cloth, we should begin by cutting out a piece of the size of a 20 centime piece, or even larger, and lay it, the spot underneath, on the object-glass. One or two drops of water are now let fall upon the cloth. In a few minutes, the spot being moistened, it is rubbed slightly with the end of a glass rod, and the cloth being removed by the forceps, there should remain sufficient liquid on the object-

glass to allow of a microscopical examination. The white globules, thus obtained, will appear either isolated and swimming in the liquid, or entirely imprisoned within the fibrin. They are so manifest, however, that they could not escape the attention even of young observers. It is evidently these that have been taken for the occasional altered blood globules of which some authors speak. They can, nevertheless, be recognized in their true nature by taking into consideration the following characteristics :

1. Their diameter is greater than that of the red corpuscles.
2. Their form is perfectly spherical, as is readily determined by causing them to roll between the two pieces of glass.
3. Their surface is very slightly roughened, requiring for its detection a very good microscope.
4. Their insolubility in weak acetic acid, and the great transparency which this re-agent gives them. This transparency enables one to determine that they are formed of an exterior layer which the acetic acid renders diaphanous, and of nuclei, from four to eight in number, which preserve their opacity.

But what is the value, in a medico-legal point of view, of the properties we have now described? In answering this question, we must recollect that the white globules of blood cannot be certainly distinguished from either mucus or pus globules. Hence, the presence of a globule, such as has just been described, indicates that the spot is blood, or mucus, or pus. If the spot is red, and the red substance presents a very uniform tint, or one very regularly shaded off, this would be one additional proof. If we find, also, at the same time, the debris of fibrin, with all its characteristics, and if these debris contain other well-marked white globules, it will be difficult to admit that the spot has been formed by any other substance than blood.

Conclusion—The white corpuscles are not altered, like the red corpuscles, by alternate dryness and moisture. We can detect them with ease in blood-spots, and their presence may aid in the recognition of the latter.”

L. H. S.

Oleo-Stearate of Mercury.

Dr. Venot, of Bordeaux, has employed a preparation by this name in the treatment of syphilitic maladies. It is a discovery of MM. Jeannel and Monsel, and is designed to be employed externally as a pomade, or to be administered internally in the form of pills. In the former method of employment, the pomade of oleo-stearate of mercury (*Pommade bordelaise*) is found to clean up and soothe ulcerated sur-

faces, neither causing rubefaction nor excoriation to the skin on which it is applied. Its use, even when continued for a long time, does not produce erythema or salivation; it does not soil nor injure the texture of the clothing. The pills are given in a dose about the same as that of the sub-iodide of mercury, and are tolerated by the system without any notable change in the intestinal, cutaneous, or salivary secretions.

The prescriptions, in accordance with which this preparation is employed, are as follows:

R.—Oleo-Stearate of Mercury,	grs. ij. $\frac{1}{3}$.
Fresh Butter,	grs. j. $\frac{1}{6}$.
Almond Soap,	grs. j.
Pulv. Liquorice,	grs. ss.

This constitutes the amount for one pill.

The *Pommade bordelaise*, intended to support the *Onguent napolitain*, is prepared by taking

Oleo-Stearate of Mercury,	1 part.
Fresh Lard,	4 parts.
Essence of Bitter Almonds q. s. for giving it flavor.	

L. H. S.

Formulæ for the Administration of Cod-Liver Oil.

Mons. M. A. Chevallier, in the February number of the *Journal de Chimie Medicale*, gives several formulæ proposed by the French Pharmacians for the administration of cod-liver oil, which may be of interest to the readers of the MONTHLY. Whatever difference there may be among practitioners as to the cause of the efficiency of this agent, all are agreed as to the good effects which result from its administration.

Formulæ of Stanislas Larten.

R.—Ol. Morrhue,	grammes lx.
Spermaceti,	grammes x.
Syrup Simp.,	grammes xxv.
Jamaica Rum,	grammes xxv.

The oil is rubbed up with the spermaceti, syrup and rum in the cold, and then poured in a glass vessel when it has acquired a gelatinous consistence. Chevallier does not consider this formula quiet as good as the following :

R.—Gelatine,	grammes xvi.
Aquæ,	grammes cxxv.
Syrup simp.,	grammes cxxv.
Ol. Morrhue,	grammes ccl.
Aromatic Essence,	q. s.

The gelatine is to be dissolved in boiling water, and then the syrup, oil and aromatic essence are to be successively added. The vessel then is to be placed in a cold water bath, the jelly to be stirred for about five minutes, and to be poured while cooling into a bottle with a large mouth.

M. Mouchon has proposed to make a jelly of cod-liver oil with the aid of a decoction of chondrus, but the objection to his formula is the same that holds with reference to the two just given—they edicament is furnished in very small quantities as compared with the quantity of gelatinous material mixed with it. We think that there is still room for an exercise of the ingenuity of our own pharmaceutists in making such a formula as will allow of the administration of this valuable agent in a way calculated to prevent nausea, without requiring so large an amount of foreign material. The subject is worthy of careful consideration and scientific study, and we hope will receive both at the hands of American apothecaries.

L. H. S.

Paronychia; the use of Nitrate of Silver as an abortive. (Bulletin de Thérapeutique.)

M. Guinier, professor *agrégé* to the Society of Montpellier, has just published some remarks upon the abortive treatment of paronychia, which has up to this time constantly succeeded in his hands.

When the pain has lasted only a few hours, and begins to be throbbing, Dr. G. slightly moistens all the red and painful surface a little beyond the limits of the rose color, and carries lightly over this a pencil of nitrate of silver. This operation ought to be continued at least a minute, until the epidermis becomes brownish. The drop of liquid which has served to moisten the cauterized surface, and which has become a concentrated solution of nitrate of silver, is allowed to dry in its place. It completes the cauterization, and secures the success of the operation. The skin, of a deep brown color, in a few hours becomes of a fine black color, as if charred, and from this time the cure is complete. In a few days the cauterized epidermis peels off, and no trace of the disease remains.

This operation, performed at the beginning of a paronychia, immediately arrests its progress, without causing pain; and persons subject to the affection, who have once experienced the good effects of nitrate of silver, so applied, do not fail to have recourse to it again, when the pain announces the invasion of a second paronychia.

It is not exactly so when the paronychia has lasted a certain time, and the pain has become pulsating. Immediately after the cauteri-

zation, the pain becomes intolerable; but after several hours it lulls, and soon ceases entirely, unless suppuration has commenced.

In this latter case, if the cure is not obtained so rapidly, the paronychia is at least arrested in its progress. The pain becomes more endurable, and it is certain that the cure is complete much sooner. In any case, cauterization does no harm, and it may be considered to be adapted to all periods of the disease.

E. H. P.

Of Aconite and Quinine in Purulent Infection. (Gazetta Stati Sardi.)

The cases of cure in purulent infection are very rare, and are scarcely to be found widely scattered through the annals of science. We note now the two following cases, observed by M. Turchetti, notwithstanding the doubts which may exist as to the true nature of the disease.

Case I. Very extended and very deep carbuncle of the interscapular region, with profuse suppuration and mortification of all the muscular mass of the nucha and of the back. When M. Turchetti saw the patient, the gangrene was not arrested, and symptoms of purulent infection had supervened. He advised frequent lotions with the water of Confani, cauterizations with the nitrate or silver, a ptisan of cinchona and valerian, a strengthening diet, tonics; and besides, 4 grammes of tincture of aconite, in 125 grammes of sulphate of quinine; to be taken in divided doses in the 24 hours. Gradual recovery, after various vicissitudes.

Case II. A young woman, recently confined; the removal of the placenta was not regularly made, and a part appears to have remained in the uterus. Soon fever, with all the symptoms which are usually attributed to purulent infection. Same treatment.

In less than forty-eight hours the secretion of milk had reappeared, the lochia had lost their fetid odor and their putrid appearance; the pain and swelling of the limbs had ceased; the beatings of the heart had lost their frequency and quickness; in short, in a few days the patient was cured.

E. H. P.

Ingrowing Nail—Ointment of Perchloride of Iron. (Gazetta Medica de l'Algerie.)

Miss C., nineteen years old, suffered for a long time from a pain in the left foot; severe enough to interfere with walking. A recent blow had aggravated it, so as to make walking and standing entirely impossible.

The great toe of the left foot is considerably swollen; its extremity presents a very large fleshy excrescence, like a kind of pad, which covers the nail for more than half its extent. The surface of this fungus is destitute of epidermis, and a purulent exudation appears between it and the nail. The pain becomes intolerable as soon as the patient puts her foot to the ground.

The proposed extirpation of the nail frightening the patient too much, Dr. Alcantara ordered an ointment of equal parts of perchloride of iron and lard, directing it to be used in the following manner: after a local bath, to pass a bit of lint spread with this ointment between the nail and the fleshy excrescence, and also to cover with the ointment the whole surface of the toe which was stripped of its epidermis; this dressing was renewed twice a day. At the end of four days the dried and mummified excrescence came off; soon after the wound became healthy, the flesh was at its proper tint, and every thing was natural. The cure was complete on the eighteenth day, and has since been permanent.

P.

The Physiological Researches of Dr. Brown-Séquard. By E. R. PEASLEE, A. M., M. D. (Continued from page 264).

RESEARCHES ON THE NERVOUS SYSTEM. (Continued.)

VI.—*Differences in the energy of the reflex (diastaltic) function in the different species of the five classes of vertebrata, and at different ages.* It has generally been said that the reflex function is far less energetic in warm-blooded than in cold-blooded animals. This is true, if we compare mammals with the batrachians, as is often done; but not so if we compare birds with the cold-blooded vertebrata, or mammals with fishes. In birds, especially the pigeon, the cock, and the duck, the reflex faculty is more energetic than in the batrachia; and in the mammals it is more powerful than in many fishes, and even in certain reptiles; for example, the lizard.

It is stated that this function is more developed in young than in adult animals. But in case of birds, and the batrachia, the reverse of this is true: while young mammals have it more developed than adults. New-born mammals manifest it, however, in a far less degree than adults.

The main cause of these differences of intensity of the reflex energy, Dr. B-S. finds to be associated with the quantity of gray matter in the spinal cord. The more there is of the latter, the greater is the diastaltic energy.

VII.—*The artificial production of a convulsive affection resembling epilepsy, and the possibility of curing this affection.* Dr. Brown-Séquard discovered that in certain animals every considerable lesion of the spinal cord opposite the last dorsal, or the first lumbar vertebra, is constantly followed, at the end of a variable number of days, by a convulsive epileptiform affection. He has since found that its access may be provoked at will, by pinching the face on the side of the lesion. If both halves of the cord have been injured, both sides of the face manifest the faculty just mentioned. He finds also that this affection ensues in animals whose spinal cord has been completely divided in the lumbar region. In this case, however, the convulsions occur only in the anterior portions of the body.

Dr. Brown-Séquard has frequently cured these animals of their epilepsy by a procedure which has been applied to man by Dr. Eben Watson, by Dr. Horace Green, and once by myself, with success. It is the cauterization of the mucous membrane of the pharynx or the larynx, by a solution of the nitrate of silver. Dr. B-Séquard first introduced this treatment into the practice of medicine. The future must demonstrate its real value. He had, at the time of his report, cured a patient who had had epilepsy forty years, and who had remained cured three years. Three others had experienced a temporary benefit, and then again relapsed into their former condition.

VIII.—*The seat of the faculty of perception. Do cries prove there is perception of pain.* It is one of the greatest questions for the physiologist to determine the seat of perception and volitions. M. Flourens has advanced the opinion that it is in the cerebral lobes. Several physiologists have not precisely adopted this idea, but have maintained that the pons Varolii is, in part, the seat of the faculty of perception and of volition.

Dr. Brown-Séquard's researches show that these physiologists deceived themselves by accepting as positive signs of the perception of pain, and of voluntary action, certain phenomena which may be explained in an entirely different manner. Besides, he found that these phenomena occur even after the entire ablation of the pons Varolii; whence it must follow, if the interpretation which he objects to is accepted, that the medulla oblongata and the spinal cord are, in part, the seat of perception and volition—which is entirely inadmissible.

IX.—*Application of a discovery of E. H. Weber to determine different degrees of anæsthesia and hyperæsthesia.* Dr. B-Séquard found in a great number of patients, mostly in the wards of M. Rayer, that in cases of anæsthesia, the two points of a compass at once were felt

as one only, even when they were very far apart. In some instances, he had thus recognized a commencing anæsthesia before it could be detected by the usual methods. The contrary was true in cases of hyperæsthesia. In a patient suffering from paralysis of voluntary motion, the two points of the compass were felt distinctly on the foot, when only one-fifth of an inch apart; while in the normal condition they cannot both be felt when less than one inch apart.

This method of measuring the sensibility of patients, proposed by Dr. B-Séguard, is now employed by many eminent physicians. In this way we may (1) detect the existence of a very slight anæsthesia or hyperæsthesia; (2) measure precisely the degrees of these affections, and assure ourselves of their daily variations.

X.—*Elevation of temperature after lesions of the nervous system.* Dr. B-Séguard found (1) that the most varied alterations of the nervous system in man, and in animals experimented upon, produced sometimes a diminution, and sometimes an elevation of temperature; (2) that a paralysis, or in other words a dilatation, of the blood vessels always coincides with the local elevation of temperature; (3) that a contraction of the vessels always coincides with a local diminution of temperature. The vascular *paralysis* often co-exists with that of the muscles, and rarely with anæsthesia; most frequently it co-exists with hyperæsthesia. The vascular *contraction* ordinarily co-exists with anæsthesia, and rarely with muscular paralysis alone.

XI.—*Results of the section, and of galvanization of the great sympathetic nerve in the neck.* After M. Claude Bernard had discovered that the division of the great sympathetic in the neck is followed by a dilatation of the blood vessels in the head, Dr. B-Séguard inferred that galvanization of this nerve will be followed by their contraction; and found this to be the fact.

These two facts—dilatation of the vessels after section of their nerve, and their contraction by its excitation—positively demonstrate that the state of the vessels depends on that of their nerve, and are of immense importance in physiology and pathology. In his memoir on the great sympathetic, Dr. B-Séguard adduces several new facts. (1) After death in an animal, whose great sympathetic has been cut on one side of the neck, the motor nerves, and the muscles of the face, and of the eye (including also the iris) retain their vital properties much longer on the side operated upon than on the other. (2) The cadaveric rigidity (*rigor mortis*) supervenes more slowly on that side of the face than on the sound side. This is also true of the process of putrefaction. Galvanization produces precisely the opposite effect up-

on the vital properties of the muscles, and the nerves of the face, and upon the cadaveric rigidity, and the putrefactive process.

Dr. Brown-Séguard's theory of the effects of the section, and of galvanization of the great sympathetic in the neck, is founded on the fact (1) that the section of a nerve is followed by paralysis of the part it supplies, and (2) that galvanization is followed by augmentation of its action. Thus the first effect of the section of the great sympathetic in the neck is the paralysis of the vessels of the face, and some other parts. The paralyzed vessels no longer resist the impulse communicated to the blood by the heart, but dilate as they admit more of it, and thus the temperature of the part and the vital properties of the surrounding tissues are augmented. On the other hand, galvanism produces contraction of the vessels, and a diminution of their blood, and of the vital properties. He has also proved that all the effects of the section of the great sympathetic in the neck may be produced by determining an afflux of blood to the head of an animal.

Whence come the vascular nerves, which, passing in the trunk of the sympathetic in the neck, are distributed to the vessels of the neck? Dr. B-Séguard's experiments, first published in August, 1852, show that they rise mainly from the spinal cord, in the part called the *cilio spinale* by Budge and Waller. He has since shown that the cilio-spinal zone extends farther than these physiologists supposed—even to the ninth or tenth dorsal vertebra.

XII.—*Relations of the organization of the nerve tubes to their vital properties.* Dr. B-Séguard found that the coagulation of the medulla (white substance of Schwann) of the nerve tubes is not an obstacle to the reception and the transmission of impressions, both motor and sensory. Its liquid condition is not therefore necessary to the existence of the vital properties of the tube. [Since all the finer nerve-fibres are not medullated, it is inferred that the axis-fibre is the part endowed with the vital property, while the medulla merely serves to isolate and to protect the former. The fact above quoted from Dr. B-Séguard goes to confirm these inferences.]

XIII.—*The pathological effects of the division of the nerves of the extremities.* It has been inferred, from the fact that ulcerations and other pathological changes follow the section of the sciatic nerve, that the absence of the nervous influence essentially disturbs nutrition. Unquestionably the nervous system exerts an influence upon nutrition; but the special facts relating to the sciatic have no value.

In frogs, if care be taken to prevent the air from entering the

wound, no pathological effect follows the section of the sciatic, except atrophy.

In mammals, Dr. B-Sequard found that the alterations attributed to the section are merely the result of compression, and the friction of the paralyzed parts upon the ground. This was proved by experiments on rabbits, and other animals, some of which were left at liberty, while others were kept in boxes, with straw and bran on their bottom. In the former, the claws of the paralyzed limbs were lost at the end of fifteen days, the limb itself was swollen, and the tissues becoming exposed were engorged and covered with granulations; and at the end of a month the denuded bones were in a state of necrosis. In the latter none of these changes had occurred. [Compare, also, page 258.]

2. RESEARCHES ON THE MUSCULAR SYSTEM.

I.—*The nutrition of muscles, as modified by the nervous system, by galvanism, by action, and by repose.* (1) Paralyzed muscles may retain their contractility, and not become atrophied, if galvanized daily. (2) Atrophied muscles, having already lost much of their contractility, regained it under the influence of galvanism, and their normal volume, notwithstanding the total loss of the nervous influence. (3) Galvanism may completely replace the nervous influence, both in maintaining and establishing the nutrition of the muscles. (4) Hence it is important in many cases of hemiplegia, and other forms of paralysis, to keep the muscles in the normal state by frequent galvanizations; not to remove the cause of paralysis, but to keep the muscles in a state of readiness to respond to motor impressions as soon as the nervous centre regains the power of originating them.

II.—*Recurrent sensibility in muscles; and the cause of pain during their contraction.* Dr. B-Séquard shows that there is in every muscular contraction a cause either of pain, or of a sensation not painful, according to its energy, and that this cause is, probably, a galvanic current. Many physiological and pathological phenomena, hitherto inexplicable, are easily explained upon this admission. Dr. B-Séquard has more particularly investigated the effects of the division of the sphincter ani in cases of fissure of the anus—painful contractions, cramps, uterine pains in abortion, or parturition, and what M. Magendie termed “recurrent sensibility.” In regard to the last, he concluded that, as the anterior roots of the spinal nerves are motor, it is clear that they cause the pain on being excited; since they cause violent muscular contraction, and this always causes pain.

III.—*Independence of the vital properties of the muscles and the nerves.*

Muscles paralyzed for eight or ten days by the section of the nerves distributed to them, and which had become rigid from the interruption of their circulation, have regained their irritability under the regenerating influence of arterial blood. Here, since the influence of the nervous centres and the motor nerves is lost, the essential vital property of the muscles is not restored by these parts of the nervous system; and consequently this property does not depend upon them.

Dr. Brown-Séquard regards himself as having first demonstrated the independence of the motor nerves. One of its proofs is the fact, that these nerves, when separated from the centres, and after thus losing their peculiar vital property, may regain it under the influence of the blood.

IV.—*The re-establishment of the muscular irritability in a criminal thirteen hours after death.* (1) Seventeen of the muscles of one hand of a criminal, decapitated more than thirteen hours previously—which had lost their irritability at least two hours before, and had been rigid for an hour and a half—lost their rigidity, and regained their irritability for several hours under the influence of blood injected into the arteries supplying them. (2) One half pound of defibrinated blood restored the irritability to the seventeen muscles above—during two hours to some, and to others for three or four hours. (3) Fibrin is not essential for the nutrition of the muscles, since in these experiments (and in many on animals) the blood injected was defibrinated. (4) The red blood injected into one of the arteries returned darkened in color in the veins and another artery; showing that oxygen was absorbed, and replaced by carbonic acid gas. (5) But blood injected into extremities which have already been rigid fifteen or sixteen hours does not diminish the rigidity; and the blood returns less darkened in color than in the preceding experiment.

V.—*The irritability of paralyzed muscles.* Dr. Brown-Séquard discovered that the irritability of muscle, paralyzed by the division of their nerves, increases, contrary to the common opinion, for a time after the paralysis commences. This is proved in three ways. (1) A galvanic current, so feeble as not to act upon muscles in the normal state, may excite the paralyzed. (2) The amount of contraction of the paralyzed muscles is greater than that of their homologues in the normal state. (3) The duration of the irritability in paralyzed muscles is greater (sometimes double) than that of those in the normal condition. After a variable time (one to three weeks) muscles paralyzed by the section of their nerves begin to lose their irritability, and may lose it entirely.

VI.—*The appearance of the rigor mortis before the heart ceases to*

beat. This curious fact, often witnessed by Dr. B-Séquard in animals, and once in man, is a confirmation in the circumstances of the laws of rigor mortis which he has established, and which will be stated further on.

VII.—*Relations of muscular irritability, the rigor mortis, and putrefaction.* These relations, discovered by Dr. B-Séquard, are of the utmost importance in legal medicine. He finds that in all cases when the muscular irritability is energetically called forth many times in the last moments of life, or immediately after death, its duration after death is diminished, the rigor mortis appears sooner, and continues a less time than usual, and the putrefaction supervenes sooner, and advances more rapidly. This is the case with animals killed after excessive muscular exertion, or by poisons, producing convulsions, or by galvanism; as also with man, if death occurs after convulsions; whether these result from disease or from poison.

Thus a body may be found in a state of complete putrefaction exposed to a temperature incapable of producing a rapid decomposition, (from 54° to 66° ,) and which, according to competent authorities, would be said to have been deprived of life for several days. But the preceding facts show that death may have occurred only some hours before.

The poisons producing convulsions, and rapidly inducing the rigor mortis and putrefaction, as experimented with by Dr. B-Séquard, were strychnine, picrotoxine, brucine, hydrocyanic acid, morphine, nicotine, cyanuret of mercury, sulphuret of carbon, chloride of barium, and oxalic acid.

The law in regard to the rigor mortis is this: It appears less rapidly, and continues longer, in proportion as the muscular irritability is greater at death; and *vice versa*.

VIII.—*Persistence of life in limbs affected by the rigor mortis.* Dr. Brown-Séquard proved that muscles in a state called the rigor mortis are not actually dead, by the following experiment. He tied the aorta in living mammals, above the renal arteries—the sensibility and voluntary movements ceasing in the posterior extremities in from six minutes to somewhat more than three-quarters of an hour, according to the species and strength of the animal; and the muscular irritability disappearing in from one to nine hours. The rigor mortis commenced immediately after the loss of the irritability, and was established in about twenty-five minutes. After it had continued about a quarter of an hour he removed the ligature from the aorta, the circulation became re-established in the rigid limbs, and at the end of about ten

minutes the muscular irritability, the excitability of the motor nerves, and a little later, the voluntary movements, and the sensibility were restored in nearly their normal degree.

Many other experiments showed that the blood can regenerate the vital properties of muscles and nerves separated from the nervous centres; and Dr. B-Séquard concludes (1) that muscles in the state of rigidity found after death, are not *dead*—still possessing *potential*, if not *actual* life. (2) That in limbs separated from the body the motor nerves, as also the muscles, may regain their essential vital property under the influence of the blood. (3) That limbs which have been for ten minutes (and even longer) in the state of rigidity called the rigor mortis, may under the influence of the blood recover their voluntary movements, and their sensibility. [These experiments, it would seem, settle the question whether the rigor mortis is a *vital* act in the affirmative.]

IX.—*Contractions excited in the skin by galvanism; and the proof of the contractility of the areolar tissue.* Dr. Brown-Séquard discovered in 1849 that the *cutis anserina* can be produced by the application of galvanism to the skin; and that contractions of the dartos are also produced in the same way. He concluded that the former condition is produced in part, at least, by contractions in the areolar tissue under the skin; and quotes in analogy, the fact that the irides of some fishes are contractile, though they contain no muscular fibre-cells. Kölliker had found the latter in the skin; but Dr. B-Séquard inferred that the areolar tissue is contractile, though it does not contain them. [The muscular fibre-cells (smooth muscular fibres) in the skin, are by Eylandt called the “arrectores pili,” and seem quite capable of producing the *cutis anserina* by their contraction. The dartos is made up essentially of this kind of muscular fibres also. That the irides of fishes which contract under the influence of galvanism do *not* contain them is extremely improbable; muscular fibres presenting a variety of forms in the lower animals—some of which may possibly be mistaken for the elastic element of the areolar tissue. We therefore do not see the necessity of admitting the contractility of the areolar tissue, except in parts where muscular fibres can be demonstrated; and which are indicated in my work on Histology, p. 388.]

Report of a case of Gunshot Wound, occurring in Bellevue Hospital, in the service of Dr. James R. Wood, Visiting Surgeon. By J. M. FARRINGTON, M. D., House Surgeon.

M. W., a young woman, æt. eighteen, was admitted to the hospital at 2 P. M., March 22d, 1858. Two hours previous to admission she attempted to commit suicide with a large revolver, the barrel of which she held close to her chest, and discharged it. She was at this time in a standing position, with no dress upon her, but her chemise. She fell upon the floor of her room, in a state of unconsciousness. Dr. Wood was summoned to attend her, and found her in almost a complete state of collapse.

After making proper inquiries, he began to search for the ball, which he found lodged in the back; he cut down and extracted it. The ball entered $1\frac{1}{4}$ inches to the left of the mesial line of the ensiform cartilage of the sternum, just beneath the last costal cartilage, and $2\frac{1}{4}$ inches distant from the left nipple. She held the pistol in her right hand, and it was slightly directed to the left side when it was discharged. The incision in the back through which the ball was extracted was $2\frac{1}{8}$ inches to the left of the spinous processes, and between the 11th and 12th ribs, being only $\frac{7}{8}$ of an inch farther from the median line, and about 1 inch lower than the anterior opening. Stimulants were administered, and when she began to rally from the shock Dr. Wood directed her to be sent to the hospital. On admission she appeared to be suffering from a severe shock. Her face was blanched, her respiration feeble, frequent and thoracic, and her pulse weak and very frequent. There was tenderness for some distance around the anterior wound. Auscultation revealed nothing abnormal in the thorax. Water dressings were applied to the wounds, and anodynes were freely administered until she was brought under their influence.

March 23d. Says she feels pretty well. Tenderness over the abdomen, less marked than it was last evening. She appears more depressed, and has an anxious expression. Pupils contracted from the use of the morphia which has been given as an anodyne. Pulse 118, quick and feeble. Tongue dry and coated.

P. M. Tenderness very marked over the abdomen for some considerable distance from the wound. Ordered fomentations to the abdomen, and $\frac{1}{4}$ gr. sulphate of morphia every hour until sleep should be induced.

March 24th. Tongue very dry. Tenderness slightly diminished. Bowels have not moved since the injury was received. Ordered an enema of water and soap, which moved the bowels twice. Ordered ʒss. of the following mixture to be given every three hours:

R.—Vini ipecac,	3i.
Spts. nitri. dulc.	℥ss.
Spts. mindereri.	℥iiss.
M.	

There was persistent nausea, but no vomiting. Ordered infus. prunus virgin. as an anodyne, and for the local peritonitis continued the morphia.

P. M. Says she feels worse. Pulse 120. Tenderness not increased. Warm fomentations still applied. Wounds dry.

March 25th. She feels worse, is drowsy and listless. Tenderness not increased: skin is moist; tongue very dry; directed glycerine to be applied to it. Sucking respiration when she attempts to speak.

P. M. She feels no better, cheeks flushed; is delirious at times. Ordered the morphia to be continued, and given every hour, unless she should be in a sound sleep.

March 26th. Pulse 130, but feeble; ordered wine. Tongue dry. Does not complain of pain, and has no abdominal tenderness. Respiration thoracic. Features somewhat sunken. Ordered ℥ss. of spts. mindereri to be given every two hours, and the tongue touched with glycerine.

March 27th. Appears better this morning. Pulse 116. No tenderness. Tongue not so dry as it was. Says she feels no worse. Complains of her throat, it is full of tenacious secretions; made an application to it with a sponge saturated with a solution of nitrate of silver, which gave much relief. Directed the morphia to be continued.

March 28th. She is unquestionably better. Tongue less dry. She feels pretty comfortable. Countenance still anxious, and respiration sucking and thoracic. Continued the medicines.

March 29th. Is still better. The posterior wound opened three days since, and is discharging a slight amount of pus. Bowels have not moved since the 24th; ordered the enema to be repeated, which brought away a copious fecal stool.

March 30th. All her symptoms are better. Ordered poultices to both wounds.

March 31st. Improving; tongue is cleaning, and moist. Her catamenia appeared a few days after admission, and to-day there came on a sanguineous discharge per vaginam, but it soon ceased. She also complained of a pain in the left side, but this also gradually subsided.

April 6th. Has continued to improve rapidly. She is sitting up to-day. A diarrhœa came on this morning, which was readily controlled by the use of tr. opii et aq. camphor.

April 8th. Has sat up a greater part of the time since the 6th. Although still pale and feeble, she is gaining strength and color. She asked for her discharge to-day, and although advised to remain a few days longer as a precaution, she left the hospital. She was enjoined to be very cautious in reference to her diet, and avoid active exercise, or any form of excitement.

April 22d. She called at the hospital to-day to report her condition. She says, that a few days after she left the hospital a diarrhœa came on, which was controlled by the use of morphia. She still looks badly, though she has no bad symptoms. She complains of pain running up the left side of the back from the posterior wound to the shoulder. It is proper also to state, that at the time of admission, and for some time thereafter, she was in an excited mental condition, in consequence of a "love affair," which was the cause of this suicidal attempt.

At the time of the occurrence Dr. Wood was of the opinion that the bullet did not pass directly through, as would appear from the site of its entrance and exit, but that it passed around superficially without penetrating any viscus, or injuring the peritoneum. As there followed no echymosis or tenderness of the side between the wounds, Dr. Wood believed that his first opinion was correct, excepting that it passed less superficially than he at first supposed, and that the peritonitis which followed was due to the contusion produced by the pistol being held so close to the body at the time of its discharge.

REVIEWS AND BIBLIOGRAPHY.

The Principle and Practice of Obstetrics, including the treatment of Chronic Inflammation of the Uterus, considered as a frequent cause of Abortion. BY HENRY MILLER, M.D., Professor of Obstetric Medicine in the Medical Department of the University of Louisville. Philadelphia: Lea & Blanchard. 1858. Pp. 624, 8vo.

Notwithstanding the many excellences of the work before us, we must confess that it has failed to supply the deficiency so long felt in American text-books on Midwifery. Since the time of Dewees, we have not had an entirely original American work brought before the profession, which can be considered as a fair exponent of the views and practice of the majority of American Obstetricians. The wide differences in practice, on many important points, between British and Con-

tinental writers, has, *fortunately*, in our opinion, had the effect in a great measure of making eclectics of that portion of American accoucheurs who are not too closely wedded to the views of either; and there is still, we opine, a wide field open for a text-book on Midwifery, which shall, irrespective of any *personal* opinions, fully set forth the practice and ideas of our Obstetricians. To be sure, but few works of any merit have made their appearance from foreign presses, that have not been re-edited, almost as soon as they have reached us; nevertheless, in nearly all of these, it seems to us as if the sole object on the part of those gentlemen who have taken them in hand, has been to set forth their own views, (which are too often based entirely on speculation,) or reiterate those of certain prominent teachers among us, whose *notions* are already well known to the mass of the profession throughout the country.

Professor Miller is certainly not open to this accusation, as in some of the more important subjects he certainly evinces the merit of originality. His chapters on flooding and abortion are full, able, and satisfactory, and do him infinite credit, although on some points we are not quite as sanguine as himself, with all due deference to his greater age and experience. His opposition to effecting version in cases of placenta previa is strong and vehement. In his introduction he says, "I have never met with an instance of unavoidable flooding in which I deemed it imperatively necessary to deliver by turning. On the contrary, it has always appeared to me that to deliver by the feet when the head of the child presents, is a high-handed measure, not only in flooding, but under any circumstances of parturition, and one which is much more likely to be productive of evil than good, either as to the mother or child." The substitute for 'this *almost* universal practice, under certain conditions, which Prof. M. proposes, is a modification of a suggestion, the origin of which is alike credited to Mauriceau and Puzos, and consists in "originating expulsive contractions of the uterus by the tampon or plug, and then puncturing the membranes, relying on the tampon to control the flooding until the liquor amnii is evacuated." He claims to have employed it with uniform success *so far as the mother is concerned*; why, may we ask, if the life of the mother is alone to be considered in these cases, is not Prof. Simpson's recommendation of detaching the placenta to be preferred? As regards our author's antagonism to delivering by the feet when the head presents, he has made no allusion to his own mode of treatment in prolapse of the funis, with the head above the brim of the pelvis; in fact he has not alluded to the subject at all. Does he under these circumstances prefer the more diffi-

cult and dangerous alternative of the forceps, to the easier and more safe method of version; for we conceive that Dr. Thomas' suggestions on this topic were not known to Prof. M., at the time of completing this, his second edition.

In describing the mechanism of face presentations, the first step alluded to is *descent*, and it is stated that "descent of the face *to the floor of the pelvis* is the whole of the first step." To this statement we cannot reconcile our views, as we have always regarded *complete* descent, before rotation, as a physical impossibility; hear M. Cazeaux on this point: "It must be evident that the face can only reach the floor of the pelvis in transverse positions, under one of the following conditions; that is, either the chest will engage along with the head in the excavation, or else it will remain above the superior strait, the face descending alone as far as the inferior one; that is to say, the forehead reaching the level of the left, and the chin that of the right tuber ischii (or *vice versa*): but then the neck must *necessarily* elongate enough to measure the whole length of the pelvis, which is three inches and three quarters. But *neither of these two conditions can be realized*; and therefore the head will not be able to reach the pelvic floor." In his article, alluding to the pathology of puerperal convulsions, Dr. Miller, when speaking of Marshall Hall's theory of the excito-motary functions of the spinal marrow, attributes the origin of this fearful complication of labor to morbid irritation, "emanating in *most* instances from the uterus and its annexes," and does not even allude to the direct irritation (centric nervous disturbance) afforded the medulla oblongata, by the toxæmic condition, produced by pressure of the gravid uterus upon the emulgent veins of the kidneys, causing congestion, and, as a consequence, the elimination of albumen, and the absorption of urea. Time, we think, will demonstrate this condition to be the indirect cause of puerperal convulsions in a *majority* of instances.

In referring to the treatment of chronic endo-uteritis, by injections into the cavity of the body of the uterus, as a prophylactic measure against abortion, allusion is made to the exquisite uterine tormina, occasioned when even a weak solution of the nitrate of silver is used, (grs. ij. ad ʒj.) This has been noticed by almost every practitioner engaged to any extent in the treatment of organic uterine disease, and that it is not due, as has been erroneously supposed, to the caustic nature of the injection, we have been able time and again to demonstrate to our own satisfaction; for equally distressing symptoms are produced by the injection of the blandest kinds of fluids: even warm water will under certain circumstances produce all the severe symptoms

that are apt to follow when a solution (weak or strong) of the nitrate of silver is employed.

The difficulties consequent upon making use of fluid injections have in a great measure been obviated by our author, by introducing strips of lint, soaked in whatever medicinal agents he chooses to employ, up into the cavity of the body of the womb; and he has found no inconvenience whatever resulting from this mode of applying medicaments to the uterine cavity; he even claims to have applied the acid nitrate of mercury in this way, without having occasioned any more distress than if it had been used at the cervix. This is confirmatory of the views of Professor Barker, and of our own; for solid materials may with impunity be introduced and allowed to remain; as, for example, the uterine sound and stem pessary. Acting upon this suggestion, Prof. B. has devised an instrument consisting of a tube and piston, working upon the same principle as the ordinary suppository pipe; by means of which medicated ointments of any strength desired are readily and thoroughly applied to the uterine cavity. This we conceive to be a decided improvement upon the fluid caustic holder figured by Professor Miller, (which in fact is nothing more nor less than a probang,) and is not liable to the objection of having its contents squeezed out while passing through the canal of the cervix, and before it reaches the cavity of the body.

There are many other points to which we would be glad to allude, but time and space both forbid.

The work is put forth in handsome style—the printing, paper, and cuts being all that could be desired—and we feel confident will prove a highly valuable addition to the library of any practitioner as a work of reference. As a text-book, however, for the student, we regard it as too meagre in detail, and not sufficiently explicit on many important points.

C. A. B.

The New American Cyclopædia; A popular Dictionary of General Knowledge. Edited by GEORGE RIPLEY and CHARLES A. DANA. Volume I.—A. Araguay. New York: D. Appleton & Co., 1858.

We hail the appearance of this volume with much delight, and can only hope that its successors will equal it in merit and general attractions. The early portion of this century, and the latter portion of the eighteenth, were marked by the appearance of huge, ponderous Encyclopædias, which pretended to collect *all* that was known to man, and present it to him in a condensed form. They were

only to be found in public libraries, or in private collections of those whose wealth justified the expense, or whose literary or scientific pursuits demanded such references. In no sense of the word were they *popular*, and the people, indeed, recoiled from the mere sight of the huge, cumbrous quartos, in which dryness seemed to manifest itself in every line. It was soon impossible to do more, in such a collection, than to present an epitome of the whole range of human knowledge—if the Encyclopædia were to consider this whole range—or to limit the number of subjects, if these were to be treated in full. The latter treatment of an Encyclopædia—"a collection of principal facts, principles, and discoveries in all branches of science, and the arts, digested under proper titles, and arranged in alphabetical order"—evidently does not carry out the idea involved in the word. Of such a character, however, is the "eighth edition" of the *Encyclopædia Britannica*, now passing through the press. The *Conversation's Lexicon* of Brockhaus, translated under Dr. Frances Lieber's directions, and known to us as the *Encyclopædia Americana*, endeavored to present an epitome of human knowledge in a form adapted to all minds. That this book was successful, its extensive circulation in our own country well proves, and its benefits have been incalculable to those who have consulted its pages.

The editors of the present Cyclopædia have come to their task supported by a corps of able contributors, with the desire to present "a faithful report of the opinions, systems, discoveries, events, actions, and characters that make up the history of the world." The country was in need of just such a book. Information is sought for by every class in society. Few can go to the full treatises on subjects that they are curious about, from want of time, or their inaccessibility. For these the New American Cyclopædia is a great desideratum. We have found that its articles are clearly written, full, comprehensive, and yet brief, and absolutely devoid of prosiness. The editors have presented us some very life-like sketches of living celebrities, with accounts of their writings, &c. This is an innovation on the old system of keeping everything from an Encyclopædia which refers to the living. Often in our studies we are most at a loss for information concerning our contemporaries, and which cannot be obtained without great labor and annoyance. We believe that a biographical sketch of a man *may* be written during his life, without indulgence in fulsome praise or senseless detraction.

Looking through the volume in search of the articles more particularly devoted to medical subjects, we have been amazed at the

vast amount of information collected in so small a space, upon all branches of human knowledge; but we have been glad to find that the very articles we sought were among the best in the volume, for all the qualities which constitute excellence in such an enterprise. Among those appertaining to medicine we can cite the articles headed Absorption, Acclimation, Albumen, Albuminuria, Anæsthetics, Animal Heat, Age, Aliment, &c., all of which will commend themselves to the medical reader for their clearness and precision, and for a conciseness which is yet comprehensive.

We regret, however, that the liberal spirit which in general characterizes the work is not displayed in the article on American antiquities, which falls far short of the elevated standard of the rest of the volume. The writer, besides committing many other errors in his statements, seems to have used the opportunity to laud one author (an eleventh-hour laborer in the field,) to the exclusion of all other American ethnologists. Who would have supposed it possible that a writer in such a work should presume to present a *resumé* of our antiquities, without mentioning the labors and writings of a Drake, an Atwater, a Rafinesque, a Davis, and a Schoolcraft, besides a host of others, who have devoted much time and labor to the subject? And, indeed, in citing the only work upon the subject, which he quotes "Monuments of the Mississippi Valley," a joint work of Davis and Squire, he mentions merely the latter name. Further on, he claims for Mr. Squire the *discovery*, in 1846, of an earthwork in Ohio. He might as well have claimed for him the merit of discovering the territory in the same year.

Several other minor inaccuracies occur, such as the statement with regard to the elevation of the earth embankments near Newark, Ohio, as being some thirty feet, whereas none of them attain more than half that height. The article also repeats the doubts formerly promulgated concerning the Grave Creek tablet—now satisfactorily removed by a paper lately read by Dr. De Hass before the Ethnological Society.

In conclusion, we can only repeat our pleasure at the reception of this volume, and congratulate both editors and publishers on its admirable appearance. We cordially recommend it to our readers as something indispensable to a well-appointed library.

Pestilential Diseases, and the Laws which govern their Propagation. A Letter in reply to Inquiries addressed by the Quarantine Commissioners. By ELISHA HARRIS, M.D. Transmitted to the Legislature by the Governor, March 10, 1858. Albany.

The Commissioners appointed by the Legislature for the removal of the Quarantine Station of the Port of New York from its present position, in the discharge of their duties, addressed Dr. Harris for certain information relating to quarantine restrictions and pestilential diseases.

The pamphlet of twenty-three pages, whose title is here prefixed, is the answer to these inquiries. The writer of it, both by experience and study, is peculiarly fitted to give such information as is demanded, and condenses within the limit of these pages much that is valuable and suggestive.

"The small-pox, typhus or ship fever, and yellow fever only," says Dr. Harris, "have ever been, or are likely to be sources of danger to the city and vicinity of New York, by transportation hither from other places."

As regards the first three the "great points to be attained are the perfect ventilation and cleansing of the vessels and their passengers, and the securing of temporary and complete isolation for those processes." The first cannot be propagated beyond the distance of a few hundred feet, and the second cannot be considered a specifically infectious disease where there is an abundance of fresh air constantly supplied, and proper cleanliness is observed.

Although the law of propagation of cholera is still unknown, it apparently disregarding all sanitary cordons, and all quarantine regulations, yet Dr. Harris is of opinion that such regulations are frequently greatly efficacious in preventing the propagation of the Eastern scourge. For this reason he counsels the continuance of quarantine restrictions respecting this disease.

Of yellow fever he speaks more at length. From whence proceed this fever, and what are the means of its propagation? These are still *questio vexata*, and probably always will be; yet as far as New York is concerned, Dr. Harris says, that "the infection of yellow fever has been repeatedly conveyed to the Port of New York by vessels from Southern and West Indian Ports when, and only when, that malady was prevalent in those ports of departure, and no case of that fever has occurred in New York during the present century, except at such times."

And upon the question of the domestic origin he thus observes: "Whatever may or may not have been true respecting the domestic

origin of the earlier epidemics of yellow fever in New York, and whatever may still be true of the possibility of domestic sources of the fever in our midst, we may safely assert that, for the last forty years, yellow fever has occurred in the city and vicinity of New York only as the result of a direct importation of the infection or virus of that fever from Southern ports."

In discussing the various questions of the commission, Dr. Harris briefly gives in this letter, among others, some interesting facts as regards the influence of wind in conveying and ameliorating the violence of yellow fever. He does not doubt that currents of air greatly facilitate its progress; and a strong sea breeze has a marked effect in ameliorating the violence of the fever. Not believing in the contagious character of the disease, nor in its domestic origin, he warmly enters into the consideration of a proper position of a quarantine establishment as the only sure means of guarding New York, and its surrounding cities and villages, from the imported poison of this fever, and closes by giving what he considers to be the essential requisites for a really protective quarantine.

D.

SELECTIONS.

Clinical Lecture on Dyspepsia. Delivered at the Hotel Dieu, by M. TROUSSEAU.

Of the patients at present in the wards of our service, you may every day see some who complain of disordered digestion. You have seen me give trial to various therapeutic means, and perhaps an accusation of empiricism has planted its germ in your minds; but do not deceive yourselves. I have, it is true, been groping my way; but if to some I have prescribed bi-carbonate of soda; to others bi-carbonate of soda, carbonate of magnesia, carbonate of lime, and seltzer water; to others cinchona wine, infusion of quassia, or of nux vomica; and to others again, opium or hydrochloric acid, it is because I would ascertain in what cases one or other of these medicines is more particularly indicated, and more especially useful. This premised, let me now enter into some details, for dyspepsia is a question on which it will be worth while to bestow some pains.

There are circumstances in which the physician, furnished with therapeutic agents, may bring his patients into particular conditions of adjustment, and impress, for instance, on the stomach a co-adaptation necessary to the regularity of its actions. The organism readily ac-

commodates itself to a new impression. Man certainly was not born under the 50th degree of latitude; his body, which is protected neither by hair nor by feathers, unlike the bodies of other animals, shows clearly that it was placed at first by its Creator under a sky so mild as to render unnecessary that clothing which, in our climate, is indispensable to the preservation of life. When the earth became too narrow for him, man directed his steps towards other regions, and thanks to the wonderful aptitude he possesses, after turning his back on equatorial countries, he now lives under the pole. As with these climateric variations, so it has been with his food; from a regimen the most elementary, consisting with the Hindoos of scanty rations of rice, milk, and water, man has at last arrived at the copious table of the nations of the north. Now, what we have said of individuals is just as applicable to the organs.

What is seen occurring in the animal on which there has been practised stomachic fistula? It is only necessary, you know, to introduce into the the stomach a glass tube in order to excite the mucous membrane of that bag, and produce an abundant flow of gastric juice. Under the influence of such irritation—of this impression, which the nerves transmit to the ganglionic nervous centres—there is produced an extra physiological secretion of a perfectly normal fluid. Carry the excitement to a higher degree, produce inflammation, and there is no longer any flow of gastric juice: the fistula now gives exit only to mucus. But such perturbations manifest themselves independently of mechanical irritation. Let a man have fever, and let the febrile state be accompanied with a certain modification of the innervation, and you have suspension of the gastric secretion. M. Cl. Bernard has repeated the experiment a thousand times, by exciting, in his way, fever in animals. Let the stomach be no longer in concert with the cerebral nerves and brain, let the pneumogastric nerve be divided, and the same instant the glands of Lieberkuhn become powerless and inert. If, on the other hand, you touch the ganglia of the trisplanchnic system, that furnish nervous filaments to the stomach, a phenomena of another order arises: the gastric secretion becomes more abundant. The results, therefore, are thus essentially different as the disturbance produced in the nervous system has its seat in the encephalorachidian system, or in the ganglionic system.

We see every day exemplified in man the influence which moral emotions have, if considerable, after a repast; indigestion supervenes just as it would do had the pneumogastric nerve been divided. Long continued mental affections may greatly change the functions of the stomach; hence dyspepsia is frequently occasioned by sadness. Keep these etiological details in remembrance: they may be singularly useful to you in the treatment of an affection sometimes so obstinate, and which will form the subject of several of our conferences.

The stomachic secretion is modified also by local pain and neuralgia. As neuralgia of the eye augments ophthalmic congestion, increases the temperature of the organ, and causes an overflow of tears, so neuralgia of the stomach brings with it analogous effects, and exag-

gerates the acid secretions to such a degree that they occur not only during digestion, but also when digestion is at an end.

Dyspepsia is observed in most persons who experience difficulty in evacuating the bowels. Is constipation a cause or an effect of dyspepsia? This question to me does not seem of easy determination; for you may just as readily suppose an individual may become constipated because his food is too sparing, as that he is constipated because he is dyspeptic.

When you irritate the lower extremity of the large intestine you bring on a diarrhœa that has its source in the ileum. The anal impression thus communicates itself to the small intestine. A very evident proof of the sympathy which connects the rectum with the other parts of the intestinal tube may be seen in the fact that an enema administered after a meal gives rise to indigestion. A suppository, which is never introduced beyond four or five centimetres, very often produces results identical with those caused by the enema. This at least is sufficient to provoke alvine evacuation, at first of the form of the large intestine, then demi-liquid, and containing matters in part from the cœcum or last portions of the small gut. There is then a participation of action, a synergia, by which the whole muscular apparatus of the alimentary canal is preserved in harmony with the large intestine. These considerations conduct you to an explanation of the fact that constipation may cause dyspepsia; the muscular apparatus of the rectum, when this gut is indolent, contracts feebly, the movements of the rest of the tube are weakened, and digestion becomes more difficult. It is the reverse of what takes place in diarrhœa; so much is this the course of things, that with some patients it is only necessary to procure regular evacuations, whether by enemata or ascending douches, so as to awaken harmonious intestinal action, in order to cure the dyspepsia.

There is a multitude of circumstances in which *colic* pains are taken for *stomachic*. The transverse colon lies, in fact, in the epigastric region, and is found in contiguous relation with the stomach. To that organ the patient invariably refers the pains he feels in this situation—an error into which the physician too, it must be remarked, often falls. Of pains in the hypochondria the same thing may be said; whether they affect the ascending or the descending colon, on account of their proximity to the liver and spleen, they are confounded with hepatic and splenic symptoms.

In constipated individuals, accumulation of fecal matters occurs in the transverse colon, giving rise to a feeling in that part of fulness and distension, which the patient never fails to refer to the stomach, though innocent of the evil. It will not be long ere you are convinced, if you interrogate carefully, that the pains complained of are not coincident with the first digestion, but rather with the time when it is all but accomplished. When you pursue your examination attentively, you discover that such individuals are liable to obstinate constipation, followed often by diarrhœa, with a more or less abundant excretion of mucus, to be recognized by small whitish bands, some-

times mistaken for fragments of tape-worm. Such persons, in the end, have attacks of colitis, and of intestinal neuralgia, and are yet supposed to suffer from affections of the stomach—dyspepsia—but, in its more general sense, dyspepsia in such has no existence. Nevertheless, the attacks of colitis may give rise consecutively to that affection.

Morbid states of the liver occasion painful dyspepsia. The hepatic gland has with the stomach a relation so intimate, and the physiological part it plays is of so great importance to digestion, that it is easy to see how disease of the liver may influence the gastric apparatus, and disturb the course of its action. Hepatic pains, on the other hand, are sometimes mistaken for gastralgic phenomena; but the diagnosis is not difficult. The patient refers all his sufferings to the region of the stomach, but medical investigations show that they extend to the entire right hypochondrium.

The uterus exerts on the stomach an influence not less remarkable; and you know what perturbations are often excited in the stomach by pregnancy, an ordinary symptom of which is vomiting, in some cases quiet incoercible. If you admit the action of the uterus, physiologically modified, on the alimentary canal, you must also admit that the organ of gestation may act in the same manner when it is the subject of pathological lesions; hence the dyspepsias that arise in the course of leucorrhœa and the leading diseases of the generative system. The same, moreover, may be said of diseases of the kidneys, and of other organs.

I thought it would be interesting to speak to you of those dyspeptic states that depend upon distant functional disorders, and organic lesions. These dyspeptic difficulties always recur with increased or diminished activity of the movements and secretions of the stomach; and it is essential to establish the differential characters that distinguish symptomatic or sympathetic affections from such as are idiopathic. For the latter, address yourselves to the stomach; for the former, you will be obliged to have recourse, not only to the distant cause, but also to the momentary morbid phenomena, and the organic lesions. Unless you do this, you will find therapeutics impossible.

At the beginning of the present century gastritis came to overturn all our received notions in pathology. The celebrated chief of physiological medicine, exaggerating the facts he had observed, and in his march retrogading back to Van Helmont, whose archœus sat enthroned in the centre of the epigastrium, pretended to establish an etiological relation between the mucous membrane of the stomach and diseases the most dissimilar and discrepant, and would have inflammation of that tunic to be the source of almost all the phlegmasiæ. You have no doubt heard of the scientific combats that were carried on at that time, and the struggles which that doctrine had to sustain. Broussais, doubtless, went too far; but it must be said, also, that physicians of the present day allow themselves to be led away by a contrary exaggeration when they deny to the mucous membrane of the stomach a capability of becoming inflamed. Why, then, do they admit that inflammation may attack the mucous linings of the nostrils, pharynx,

trachea, bronchi, uterus, vagina, and even that of the intestines? Why, because Broussais abused the subject of gastritis. Would they have the internal coat of the stomach alone exempt? This is just, in fact, what we always do; from one evil we fall into a greater.

In vitium ducit culpæ fuga si caret arte.

Gastritis, then, has an existence, and there are satisfactory reasons why it should. As the chronic state is that in which it is most frequently seen, so also is it sometimes masked; but still it is there, and excites serious disturbance in the process of digestion. Under the influence of this inflammation, the movements of the muscular fibres of the stomach become irregular, and the secretions no longer take place, but in an abnormal manner. Hence you see dyspepsia accompanied by inappetency, and the tongue covered with a salivarial coating; the patient finds his food taste bitter, nausea occurs after meals, and so do inodorous eructations, retchings, and vomiting. Commence your inquiries into the etiology of this form of dyspepsia, and it will not be long ere you discover that the origin of the disease, its symptoms, and physical signs, are all referable to some permanent irritation; to chronic gastritis. There is a variety of dyspepsia, in which bulimia takes the place of inappetency. The patient experiences in his stomach a constant feeling of emptiness. Scarcely has he finished eating ere appetite returns with imperious craving, compelling attention to its factitious wants; eructation, flatulence, and constipation are, in such cases, exceptional phenomena; but diarrhœa is frequent. The reason of this you will soon comprehend. In order that digestion take place physiologically, each of its phases must be accomplished in a given time; but should the stomach contract with too much energy, the alimentary mass is protruded with undue celerity into the duodenum, and before it has acquired a state of elaboration sufficient for fitting it for the second digestion. The intestine thus brought into contact with a foreign body—if I may use the expression—hastens its expulsion, exciting an abnormal state of activity, both in its secretion and contractions. Hence the diarrhœa, and often, also, lientery.

Let us go on to another form of dyspepsia. You will often be consulted by individuals whose stomach, after meals, becomes distended with air to such an extent that the patient has to undo his clothes. You are told that this phenomenon is due to the rapid fermentation of amylaceous food, or else to an abundant production of carbonic acid, the result of fermentation going on in the stomachic bag, analogous to that of wine in a vat. But such is not the way the thing occurs. As Graves has well remarked, if you substitute meat for amylaceous food, the patient taking animal food almost exclusively, gas nevertheless appears, and with the same importunity. Now, would you say in this case, that the gas is a product of fermentation? There is here a peculiar secretion that has nothing to do with digestion of the food. In hysterical women, tympanitis sometimes shows itself in less than ten minutes; the abdomen may be felt enlarging under the hand. Assuredly fermentation will not suffice for the explanation of such a phe-

nomenon. Under the influence of nervous disorders there occurs an exaggerated gaseous secretion, which recalls those other secretions, the lachrymal, salivary, renal, &c., the quantity of which is often extraordinary.

These facts are not without their importance. In fact, if you reason as the chemists do, and consider the stomach a sort of crucible, the excess of carbonic acid which comes from the pretended fermentation you must combat by every sort of means that chemistry affords. Well, I can tell you beforehand, that, if you thus proceed, you will accomplish nothing to the purpose. But, on the other hand, if you pursue the path of the true practitioner, if you prescribe baths, effusions, a few drops of ether, or any other means in which experience has taught you to confide, you will succeed in mastering the symptoms. But on this we shall say more when we come to the treatment.

In certain cases the acids of the stomach are in quantity enormous, and the patient has scarcely finished a meal before he is assailed by eructations in great number, and so acid as to set the teeth on edge. There was lately in the *Salle St. Bernard*, No. 27, a young woman, a prey to sufferings of this kind. When taken with vomiting—it was frequent—and using a copper basin, as they do in all the hospitals, lactate of copper was immediately produced, easily recognized by its green color. The chemists have not been behindhand in endeavors to find out the cause of this acidity. It is a transformation, say they, of glycose into alcohol, and of alcohol into vinegar. Unfortunately, the explanation falls to the ground before the fact that the production of acid is often more abundant when animal food is exclusively used. The contrary, no doubt, takes place in many cases, but can this weaken in any measure the former results? No; the acids of the stomach are not produced by a chymic operation, but are due to a particular secretion. Graves said in 1823, and Berzelius repeated in 1830, that this acidity consists principally of lactic acid, which may be formed in no inconsiderable quantities under the influence of nervous action and excitation peculiar to the mucous membrane of the stomach.

I have now passed in review with you various forms of dyspepsia. But can it be said that in practice you will be able, with as much precision, to seize on all the various shades of the disease? That is often impossible. In order to convey my thoughts I am obliged to reassemble facts, give form to statements, and describe genera and sub-genera, but I express nothing that is absolute. Classification is in natural history a very simple thing, and, to take only an example from botany, vegetable species are distinguished by very well marked differential characters. But the case is by no means the same in nosology. Diseases in general, and the dyspepsias in particular, are far from being always identical with themselves. In their manifestations there is confusion; they are crossed one with another, and rest on data too shifting and unstable for one to attempt here to lay the foundations of a sure classification. Take warning then; and when, in the treatment of some obstinate case, your minds are left to their own resources, be not too ready to accuse therapeutics should success not promptly

follow your efforts; for so you might soon be brought to deny medicine altogether, the worst evil that could befall you in the practice of your art. If, on the contrary, you bear in mind this form of dyspepsia may usurp the attributes of another, and that both may occur simultaneously, then you will not delay having recourse to the mixed treatment I shall presently point out to you. Discouragement will no longer then have any hold on you.

Dyspepsia causes its influence to be felt throughout the whole system: a fact to which M. Bean was the first to direct the attention of practitioners. He has shown that there are very generally in dyspepsia anæsthetic conditions analogous to those seen in many cases of hysteria, insensibility taking possession of an arm, or a hand, or the face. Of our experiments in confirmation of this you have yourselves been witnesses; and you have seen me pinch, prick, and make holes with a needle in certain parts of the skin, without the patient being at all aware of what had been done, while the other parts of the body were perfectly sensible. Nor do the moral and intellectual faculties escape its influence. The difficulties of the stomach, moreover, become a clog upon labor, interfere with the exercise of thought, and prepare the way for hypochondriasis. The various influences which dyspepsia exerts on the general health are attended with the most serious consequences. Thus, disorders of digestion are a cause of imperfect nutrition; and the almost perfect inanition, which results from this state, changes the composition of the blood, and plunges the patient into a state of physiological wretchedness.—*Medical Circular*.

Clinical Lecture on the Diagnosis of Idiopathic from Rheumatic Arthritis, and the Pathology of these Diseases. By E. A. LLOYD, Esq., F.R.C.S., Surgeon to St. Bartholomew's Hospital.

GENTLEMEN—The subject on which I wish to treat to-day in a "Clinical Lecture," so called, is one on which a good deal of obscurity seems to hang, yet one on which you may be asked to give an opinion very often.

The great object of clinical lectures I believe to be to teach practical therapeutics and diagnosis; some say to teach general surgical principles; but these you will receive in your lectures on "Surgery," and the less of sameness and repetition we have in a school like this the better. The subject of Treatment—that is the corner-stone of all the edifice. I never knew a surgeon to get on properly in after-life who was not *au fait* as to the little details of therapeutics and good general treatment. The great secret of success is to put yourself in the patient's place, and to treat all cases well.

How often do I find old pupils of St. Bartholomew's regretting that they neglected therapeutics? Students are, by the present Examination Boards, encouraged to go to "grinders;" encouraged, indirectly, to make themselves "up" on fixed questions of delicate anat-

my or histology—of no conceivable importance. But therapeutics! how to order the commonest mixture or lotion, or what lotion or mixture is valuable in a specific surgical case, is thought *infra dig.* It is when you have “passed” the College you will find this. “Clinical” lectures are a step in the right direction; but, then, they are only another name for lectures on therapeutics and diagnosis. As such also you should not neglect them if you wish to get on in practice.

The case I propose to speak of to-day is one of what was called “Rheumatic Arthritis,” but where we have now reason to see the diagnosis was confused and uncertain for a long time—at least, out of hospital. The poor man told us the disease commenced with a dull, heavy pain of the joint, which led his surgeon in the country to pronounce it “rheumatic;” a dull, heavy pain that prevented him going about his work; he could tell us very little else about it. About the end of August, you remember, I left town, and the patient was then under Dr. McWhinnie’s care. The patient was sixty-eight years of age, and the disease had existed fifteen months prior to admission; it was called rheumatism. An abscess formed under the knee-joint, which was discharging pus profusely, the joint was swollen, and some sinuses were observed around it; on passing a probe, I found necrosis of the tibia—in fact, there was a hole in the tibia, with a piece of loose necrosed bone. It was, therefore, very clearly not rheumatic arthritis, but a case, probably, of idiopathic disease of the tibia. The patient’s health was not suffering much, there was very little pain. When I again saw him, pus had got into the cavity of the joint, and very foetid matter was let out, which is always an indication of loose or diseased bones. How the case was mistaken for rheumatism before it came to us, I am not in a position to say.

Well, after this the knee-joint increased again in size, and now severe pain also came on, with signs of a new attack of inflammation. I was obliged to allow exit to more matter; the man then rallied, the fever diminished, but subsequently he had tedious suppuration again, and he sunk. I dwell on this case to-day, as you have all had excellent opportunities of watching it from the time of its admission. We often learn a good deal also that is retained in the mind from errors of diagnosis rather than from plain sailing.

I now show you the diseased parts—and this is what I call practical diagnosis of cases. The man died a few days ago, and we have the knee-joint here well preserved, and full of instruction. There is a cavity posteriorly communicating with that of the knee-joint; the cancellous structure of the head of the lower bone is engaged, and even in the medullary cavity we see here fragments of diseased bone; there is a large cavity, in fact, in the head of the tibia; the articulating surfaces are destroyed, but the condyles of the femur have escaped. Now this is a state, I need not tell you, that we do not find in rheumatism; it explains the great tediousness and intractableness of the case. Some might say, why not try resections, &c.? But mind you, the man was sixty-eight years of age, and worn down by suffering.

Now, the diagnosis of rheumatic diseases of joints is sometimes very

difficult. We have had some cases sent into our surgical wards from medical wards over the way. The fever in these cases was so great that they misled the physicians; but they were cases of acute synovitis of the hip-joint, and immediate relief was obtained by opening the joint—Mr. Gay's method over a case of a woman. She went out of hospital improved, and entirely altered for the better after this operation. It is, of course, a very formidable proceeding, and not to be undertaken too lightly; but in some cases the relief afforded is something wonderful.

In a private case, not long ago, treated by one physician, and then by another, for articular rheumatism—for I do not know how long—I was sent for, and I found it common synovitis with purulent deposit in the joint. This case took two years, but ultimately got well with stiff joint, better perhaps than so-called resections or amputations, and death. I saw at once it had nothing, in fact, to do with rheumatism; it puzzled the two physicians exceedingly. If treated properly at first, all such cases are rendered more amenable to professional skill; this is what I call proper diagnosis, for it is obvious to every one if we form a wrong diagnosis, and use wrong therapeutical agents early, we only confuse the case; and many of these cases, as they reach us in hospital, are sadly confused. In a case at present in "Colston" ward, sent to me also as rheumatism, the disease was thickened periosteum over the os calcis. I divided this, and the patient has gone on well. Now, the treatment of the two diseases is not at all the same; so you will do well to take a note of the differences.

The question you are all this while asking yourselves is, how is rheumatic to be diagnosed from common or idiopathic disease of articulations? In rheumatism it is very rare to find pain in *one* single joint; there is also some history, more or less obscure, of previous rheumatism of various joints, pericarditis, &c., or of some affection probably yielding to rheumatism medicines. Again—rheumatism is very seldom, if ever, complicated with suppuration in or about joints. Rheumatism is also a very common disease.

Now, the disease we are speaking of is a very rare and very tedious disease. In diseased bone there is dull, heavy, protracted pain, without effusion at first, but soon we get effusion of pus. Now, I never saw suppuration in rheumatic disease; on the contrary, the slightest amount of idiopathic synovitis leads very often to suppuration. Again, in pyæmia you may find rapid suppuration into joints and in internal parts, but you can scarcely call them abscesses. In acute idiopathic inflammation, the cases are not so tedious in their previous history, as this form of disease goes through its stages more quickly than chronic rheumatism. If you find "rigors" have set in, you may be almost sure there is suppuration going on, and that it is not rheumatism you have to deal with. Anchylosis is very rare, or entirely unknown in rheumatism; joints get stiff, but there is no true bony anchylosis. In chronic rheumatism of joints, too, the fibrous and synovial tissues are thickened, nay, the cartilage may be removed, but the

ends of the bones do not anchylose—they become polished. How different all this is from strumous disease of joints with ankylosis, so easily brought about, I need not to-day stop to describe.

I believe that opening a diseased knee-joint with pus in it, is not at all the same thing, or so formidable as opening a healthy knee-joint. I have now done it very often. I believe it a good operation. A great deal consists in a good diagnosis of the case.

There are other forms of disease that may be confounded with this “Rheumatic Arthritis;” I mean malignant disease of joints. Here we have the well-known cachexia, attended with quick pulse and pains at night, as well as other diagnostic points to lead us—which time will not now permit me to enter into at any length. Nor must we forget syphilitic and gonorrhœal diseases of joints; in the former, mercury sometimes does good, but I think it does harm in other forms of joint disease. You will merely make the mistake of confounding these diseases with idiopathic forms of inflammation; but you will do well to take care of “splitting on the rock” in your way—rheumatic as compared with idiopathic disease of bones and joints.—*Ibid.*

PROCEEDINGS OF SOCIETIES.

Academy of Medicine.—Obstetric Section. Dr. BARKER, Chairman; Dr. UNDERHILL, Secretary.

Feb. 22. The paper referred to the Section by the Academy, on “Prolapsus of the Funis,” by T. Galliard Thomas, M. D., was, on motion, first read. In this excellent paper, Dr. Thomas proposes to effect the reduction by inverting the uterine axis by placing the woman on her hands and knees, in the posture employed by surgeons in operating on the uterus and vagina. He suggests the following rules: 1st. If the cord is detected before the waters have broken, let no manual assistance be offered, but place the woman at once in position, and trust to this for its return to the uterus. 2d. Should the waters have flowed away, and left the cord below the head, place the woman in position, and push it up with the hand if practicable, or with a porte cordon, consisting of a gum elastic catheter, with a tape passed through it: if not so, 3d. Let no manipulations be commenced until the woman be placed in position.

Dr. Blakeman remarked that it was the most common-sense paper he had read for some time, and he wondered the plan suggested had not been thought of before.

Dr. Shanks considered prolapsus as not very common. He had never seen but one case.

Dr. Hubbard had seen six. Dr. Barker had met with eight cases,

and the child was lost in five. In the other three the child was promptly delivered as soon as the prolapse was discovered, by version in one and by the forceps in the other two. He asked Dr. Thomas if the measure proposed by him was applicable, when the accident was discovered in the first stage of labor as well as in the second; in his experience the accident was invariably fatal to the child when it occurred in the first stage of labor. Dr. Thomas replied, that he had expected this inquiry would be made, and that he believed that the plan proposed was equally applicable in both. Dr. Barker said if it should prove so, and he did not see why it should not, it would be one of the most valuable suggestions in practical obstetrics which had originated in this country. After some further discussion as to the influence of atmospheric pressure in producing the result, Dr. Gardner introduced some resolutions highly complimentary to the author, with a recommendation that it be published in the Transactions of the Academy, which were unanimously adopted. There being no Committee ready to report, the members were called upon for reports of cases.

Dr. Shanks then related a case of dysmenorrhea in which he had made use of the vol. tinct. of guiac.

Dr. Hubbard stated that he had used the tinct. guiac, (Dewees' form,) with the addition of a drachm of aqua ammoniæ to every two or three ounces, with success in several cases of dysmenorrhea.

He thought it beneficial only in those cases where there was a rheumatic neuralgia or gouty condition of the womb. He is in the habit of giving a brisk cathartic before its use, and if it should disturb the bowels, a few drops of laudanum may be added to each dose. He gives a drachm three times daily following a meal, commencing its use about two weeks before each catamenial period.

Dr. Barker said that in the first years of his practice, being fully indoctrinated in the ideas of Dewees, he had treated most cases of dysmenorrhea which came under his observation with the volatile tincture of guiacum; but he coincided with Dr. Hubbard in the belief that this remedy was only valuable in those cases where there was decidedly a rheumatic or gouty diathesis. In these cases, which he now believed to constitute but a small proportion of the cases of dysmenorrhea ordinarily meet with, he made use of the following pill before commencing the vol. tinct. of guiac:

R.—Ext. Colchici Acet.
Pulv. Aloes Soc.
Hydrarg Submur.
Ipecac.

aa. gr. x.

M. ft. pil. No. 10.

One pill is to be given every four hours until a decided emetico-cathartic effect is produced. These pills are given about two weeks before the catamenial period, and then the guiac is administered in drachm doses three times a day. But as he before remarked, this form of dysmenorrhea is comparatively rare. The more common form arises, as Dewees long ago supposed, from chronic inflammation of the internal surface, and he had succeeded more frequently in effecting a radical cure by introducing into the cavity of the uterus the following ointment, than by any other plan, viz.:

R.—Argent Nit. Crys. ʒij.
 Ext. Belladon. ʒj.
 Ung. Cetacei, ʒij. M.

Dysmenorrhea resulting from mechanical obstruction was generally radically cured by incising the cervix with Simpson's uterotome. In some cases, the dysmenorrhea was not only radically cured by this measure, but sterility was removed. He (Dr. B.) had latterly been very successful in treating the neuralgic form of dysmenorrhea by the use of the valerianate of ammonia, as follows:

R.—Ammoniæ Valerianat., ʒiij.
 Syr. Tolu, ʒiv. M.

A teaspoonful four times a day, commencing three or four days before the anticipated period. The treatment of that class of cases arising from chronic inflammation of the cervix, is too well understood at the present day to require comment. For the successful treatment of these cases everything depends upon an accurate diagnosis of the predisposing causes. The antecedent history should be carefully inquired into. If the dysmenorrhea had always existed from the first appearance of the menstrual function, it probably was due to mechanical obstruction. If it first appeared after marriage, or a miscarriage, it was probably due to chronic inflammation. The character and exact locality of the pain would also throw a good deal of light on the case. Clinical experience led him to believe that ovarian dysmenorrhea, which Drs. Tyler Smith and Tilt lay so much stress upon, is very rare, and that where it does exist it is generally a secondary affection. There are some cases which he has not succeeded in curing. The best that he can do is to palliate the suffering from each period. One of the best palliatives is the camphor mixture of Dewees. In some cases, where the suffering is very intense, exceeding that of an ordinary labor, chloroform has proved the only effectual resource. One patient has found complete relief from the use of the carbonic acid

gas as a local anæsthetic, but he must say that this is the only case in which it has proved effectual. He has a patient who looks upon pregnancy and lactation as the greatest of blessings. She is the mother of four children, and has menstruated but three times since her marriage, but each of these periods caused more suffering, and required more medical attendance than parturition, and this has always been the case since the first appearance of the function.

Dr. Wooster had found stricture of the canal a *frequent* cause of dysmenorrhea. He dilated the canal with bougies, and then with the common sponge.

Dr. C. A. Budd related a violent case of dysmenorrhea under his care, which had originally consisted in stricture of the internal os of the cervix, and for which the woman had been subjected to a great variety of treatment, both local and general. When the patient first presented herself to his notice, the pain was only observable *during* the time of the menstrual flow. He treated her with the compressed sponge, with the effect of removing the stricture, so that the sound could be readily introduced. Soon after, a sub-acute endo-uteritis ensued, and now the pain is noticed for four or five days *prior* to the eruption of the menses, and is almost entirely relieved when the continual flow becomes thoroughly established.

He inquired whether, in the absence of a physical exploration, a very good presumptive diagnosis might not be made as regards these two forms of dysmenorrhea, viz.: The mechanical and congestive. He was inclined to think that when it depended upon mechanical obstruction, the pain could be referred to contractile efforts of the uterus to expel the effused blood—whereas, in a congested or inflamed state of the organ, the pathological condition was aggravated by the menstrual nixus, and relieved by the physiological depletion.

Dr. Gardner then reported the following case: He was called to see Mrs. C——, East 20th Street, under the care of Dr. Bishop. She was the mother of numerous children, and the youngest some two years old. She had been slowly flowing for some weeks, commencing without apparent cause and without previous symptom. When he saw her she was much blanched, labor pains had supervened upon this flow, the whole abdomen was tender, pulse rapid, an intense fetor filling the apartment, and her situation evidently precarious.

On making vaginal examination, the os, hard and unyielding, although the douche had been resorted to several hours previously, barely admitted the finger; nevertheless, he managed to pass the finger around and brought away a putrid mass, the embryo fœtus. In so

doing, a firm tumor was discovered, with a large pedicle suspended from the posterior and left lateral portion of the uterus. Chloroform was then administered to relieve the great pain of this manipulation, and advantage was taken of a very slight dilatation effected by it, and especially by the suspension of uterine action, to pass a polypus forceps through the os, and to attempt to seize this tumor. Owing to the smallness of the space to which the operation was limited, it was found to be a matter of too much difficulty, if not danger to the woman in her weak condition, to make any great effort at extraction. A small portion of its flat edge, however, was brought away, showing plainly its fibrinous character, and further action was suspended until the patient's strength was restored. The inflammatory action of the peritoneal surface soon subsided and the patient very shortly mended. Pyæmic abscesses appeared in many places, one rupturing into the rectum, and one into the stomach.

At the present time, two months subsequent to the delivery, she is about the room, although very weak. She has had much vomiting from sympathetic irritation of the uterus, so that she has scarcely been able to keep down any nourishment. It was not allayed by Prussic acid, chloroform internally, chalybeates or effervescents. It is now limited to her rising from the bed and her lying down.

It is proposed, as soon as she is sufficiently restored as to be prudent, to dilate the uterus by colpeuryesis and with the sponge tent, and then to remove the remaining tumor, the source of her stomachic disturbance, in such manner as may be deemed expedient when its size and condition shall be thoroughly explored.

The Section then voted that the subject for discussion at the next meeting should be "on the comparative use of the Forceps and version."

EDITORIAL AND MISCELLANEOUS.

The French Medical Journals have a department which is devoted to the discussion of lighter topics than those which somewhat unwisely are supposed to be the necessary heavy articles of professional publications, just as if a little wit or sarcasm was not, occasionally, as good to open the eyes of doctors to some of their faults, as it is when used for others. The MONTHLY has sometimes indulged in the same freedom, and will continue to do so. But for the present, finding some-

thing so admirable in successive numbers of *L'Union Medicale* that we translate it for our pages, we beg to say to any one whose toes may be trod upon, that it is calculated for the meridian of Paris, as the astronomers say, though it will answer as well for this country. This is the first instalment of

Dr. Simple's Journal.

January 1st. My reputation is evidently increasing. Yesterday, believing that there had been a mistake made, I carried back to M. P——, bandage maker, a magnificent almanac I had received under cover of an envelope. M. P—— would not receive it back; in the most polite manner he requested me to retain it as a mark of respect he was happy to pay to Dr. Simple, and other very flattering things. If any of your patients should require my services, I hope you will not forget me, added M. P——. I shall not easily forget such an agreeable man.

I have spent most of the day in enveloping, addressing, and prepaying one hundred and seventy-three visiting cards, the most of which were sent to me by persons I do not yet know, but who have undoubtedly been attracted by my name. That is very flattering! And my friend Benoit was opposed to my establishing myself in Paris! Those provincials have very narrow views. Would I have received at Tartas the cards from twelve apothecaries, eighteen dentists, from M. F——, Chevalier of the Legion of Honor, and founder of the manufacture of elastic stockings for varices; from MM. B——, P——, C——, &c., bandage makers; from MM. d'E—— and F——, dealers in mineral waters; from M. Popelin, Sr. (oil merchant); from M. A. Damoiseau, formerly furnisher (of what?) to the Prince Royal, and a host of other persons more or less remarkable? I hastened to return my own card to these distinguished representatives of science, industry, and commerce.

January 2d. One of my best patients, a rich and distinguished man, has a tumor upon the back of his neck, in the diagnosis of which I desired to have the advice of a surgeon. Day before yesterday Dr. X——, called in by himself, made a brilliant dissertation, which captivated my patient of the Rue Duphot. My learned confrere is so conscientious that this morning, upon leaving his hospital, he desired to visit my patient again, to assure himself that he had made a correct diagnosis. I found my patient touched by this visit, which he took pains to speak to me about.

January 3d. Just as I was going out this morning, I received the following note from my patient of the Rue Duphot:

"My dear Dr. Simple—My disease being surgical, and requiring an exclusively surgical treatment, I have desired Dr. X——, who you had the kindness to introduce to me, and who has accepted to take charge of the case. Under any other circumstances, for myself, or my family, I should have recourse to your good counsel. Yours, &c.,
Z."

My friend Benoit, to whom I confided this affair, is obstinate in maintaining that the course pursued by this surgeon was not delicate. Prejudice of the country.

January 4. I have made out to-day the amount of my accounts which have not been paid for 1857. I shall send out to-morrow my servant with the bills, which amount to the sum of 1,785 francs. I reserved this to pay my rent and some other expenses. Benoit, who is always in fear, says that I would do well to guard against these by some other means.

January 5. Frances, my servant, has returned furious; she brings back 63 francs and a half. They all desired her to come again, because the expenses of New Year's Day had emptied their purses. This reason is plausible, but Benoit advises me, this year, to send Frances before the last of the year.

January 6th. My friends of the faubourg St. Denis have invited me to *tirer les Rois*. I drew the bean, and custom requires that I should return the invitation. There was an old woman there who entertained me the whole evening with her catarrh. She did not cease till I had written her a prescription in due form. As she sees a great many people she may be of use to me. She has already spoken to me of a great many people to whom she desires to recommend me. It is well not to neglect anything.

Benoit, who often makes use of very trivial expressions, says that I allowed myself to be cheated out of a visit. What language!

January 7th. The old lady of last night has had the kindness to write to me the following note :

"My good Doctor—You are so charitable that I have no hesitation in recommending to your kind care an honest, but poor family, of which the father, mother, and an infant are at this moment very sick. The Curè of——, to whom I have spoken of you, will be very thankful for your kindness towards the family of C——, who live in the Rue de Charonne, No. 198, in whom he takes, as do I, a very great interest. If you should, in your visits, pass near them, have the kindness to call upon them in their seventh story. You will do a good work."

From the Place Laborde, where I live, my visits assuredly do not carry me to the Rue Charonne. I took a carriage and went there. (Two hours at 2½ francs, and fee to the coachman 5 francs.)

I wrote to the Curè that I would see those poor people once a week, but that a little soup, some good wine, some wood, and some coal would greatly accelerate the effects of the treatment.

It is at all events a good thing to gain the respect of the Curè of——.

Benoit, who is a censorer, pretends that there are in Paris a great many charitable persons who perform their charities over the shoulders of physicians. What villainous ideas!

January 8th. The good Baroness d'U—— has two physicians; one for herself, that is I; the other for her parrot. To her own physician

she will only give three francs a visit. It is an old custom, she says, and although I have discreetly remarked to her that the price of everything has increased in latter years, she nevertheless will not augment the fee. How much does she allow to the physician of her parrot? Yesterday I did not know; I do to-day.

I was called to see her this morning, and prescribed for the reigning epidemic with which she is attacked, when a great person arrived, very well dressed, of a serious air, whom the baroness received with much favor.

"I desired you to call to see my poor Coco," she said; "for two days has been much depressed, has lost his appetite, and has a considerable diarrhœa."

The man of art palpated the animal, examined him with attention, and declared that he was afflicted with inflammation of the bowels. He prescribed some enemas, and left after having received—I am ashamed to say it—a five franc piece. But that is not all.

"Ah! mon Dieu! Doctor, I have forgotten something," said the baroness; "run after M. X——, and inquire if it is necessary to keep the stools?"

I acknowledge that for a moment I hesitated to perform this singular commission, but the baroness was so supplicating, that without reflecting further, I ran, and from the top of the stairway cried out in a serious tone, "Monsieur, Monsieur, is it necessary to keep the stools?"

"Certainly, certainly," replied, with equal firmness, my confrere in medicine.

Benoit, who finds fault with everything, blames me very much for this condescension. These country people know nothing of the exigencies of advanced civilization.

January 9th. The baroness has promised to get me admitted to the Society for the Protection of Animals. I am rejoiced.

January 10th. I have become an important person. The director of an important medical journal has signified, by a messenger, that he greatly desired to see my name amongst his list of subscribers, among whom were all the French and foreign medical celebrities. I could not refuse to accept this evidence of consideration; I should not have received such attention at Tartas.

Benoit is decidedly too familiar. He says I was an ass to have accepted the receipt, for if I had bargained, I could have received the journal for half price. How can any one advise such a course?

January 11th. In preparing the treatise in which I am engaged, and which is destined to open to me the doors of many learned societies, it is necessary for me to re-read the work of M. Chomel on General Pathology. I went to the neighborhood of the medical school, entered a bookstore, and inquired for the book.

"We have not *that one*," replied the bookseller, "but we have something more complete, newer, a superior work, which everybody buys—two magnificent volumes, as you see."

And, in fact, I saw the treatise on General Pathology by M. Monneret. I permitted myself to be convinced, and bought it.

Still, I desired Chomel, and went into an adjoining bookstore.

"Oh! sir, that book is very old," I was told. "Since Bouchut has appeared Chomel is no longer sold. Look at this superb volume."

And I received in my hands an enormous octavo. I thought upon the fine effect it would have in my library, so I bought the General Pathology of Bouchut.

Still, I desired to get Chomel, and for that purpose I went into the bookstore opposite.

"We do not keep that article," said this bookseller, "but if I can advise you, I would take the General Pathology of M. Beyrau, which is the most recent resumé, and the best of all the works upon this subject."

This eulogy pleased me, and I added Beyrau to my other purchases. Nevertheless, I did not forget Chomel, and I went on still further to get it.

Here, on account of the bundle of books I had under my arm, they took me for a clerk of a bookstore, and to my question the bookseller replies:

"How many copies?"

"One," said I.

"In order to have a right to the thirteenth, it is necessary to take the dozen immediately."

Believe me, I showed some spirit in replying that I preferred to take the thirteenth, without the dozen.

This bookseller has spoken so highly in praise of the work, of the rapidity with which this new edition is sold, that I am very glad to be obliged to read it again so soon, for in a few days, perhaps, I should not be able to procure a copy.

What a wonderful city Paris is? I go out to buy a volume, and bring back five. These booksellers have such entertaining manners.

This devil of a Bénédict, who takes such care to see the evil side of everything, says, "he understands very well why the publishers of Monneret, Bouchut, and Beyrau would not sell me Chomel, and why on the contrary the publisher of the last wishes to sell me a dozen." Is not this skepticism very much misplaced?

January 12th. A learned apothecary of my neighborhood has honored me, by recommending to my medical observation some pills which he has compounded, the first use of which he desires to give me. He says they are excellent for the prevailing influenza, quieting the cough, and all the severe symptoms. To return this attention I shall send all my patients afflicted with influenza to the apothecary X——.

January 13th. It is very odd! all my influenza patients, who have taken the pills of the apothecary X——, complain that he sells them very high, and that they calm absolutely nothing.

14th. Benoît arrived this morning, and made a scene.

"How is this, Simple? you advertised, and upon the 4th page!"

"I do not understand you."

"Then read here."

INFLUENZA.—*The most celebrated physicians of Paris, and among*

others *Dr. Simple*, prescribe with success the *Soothing Pills* of the apothecary X—, No.— — Street.

"I have not consented to this announcement."

"You will deny it immediately?"

"Certainly."

I reflect a moment, and I believe the best way is to write a polite note to the apothecary, desiring him to say, that it is through error he introduced my name in his announcement.

January 15th. I received the following note from the apothecary :

"Doctor—There is no error in the announcement to which you have called my attention. I hold, at the disposition of whoever may wish to inform himself upon the subject, *eight* prescriptions signed by you, in which you prescribe my pills. I have, therefore, announced nothing contrary to the truth, and I have nothing to rectify.

Yours, &c."

How shall I get out of this? My old friend Benoit has gone to the country for two days. I will write to the *Union Medicale*.

—The University of Buffalo conferred the degree of Doctor of Medicine upon nine young gentlemen at its recent commencement. Prof. Sanford B. Hunt has resigned his chair of General and Descriptive Anatomy in this institution, and Dr. A. W. Nichols, formerly Demonstrator of Anatomy, has been appointed lecturer, and will occupy his chair this year. The May number of the *Buffalo Medical Journal*, published in advance of date, also announces that Prof. Hunt has left the medical profession, having entered upon the duties of a newspaper editor, and does not attempt to ride two horses at the same time. We shall miss Dr. Hunt's editorials, which, notwithstanding what he says of his contributions, have largely added to the interest of his journal; but wish him good luck in his new vocation. His successor is Dr. Austin Flint, Jr., a tried and capable man, worthy of the name he inherits.

—The Academy of Medicine at its April session elected its delegates to the American Medical Association. The reports of the various sections were read and accepted, after which Dr. Morris read a memorial of Dr. F. U. Johnston, recently deceased. Dr. A. K. Gardiner read a paper "on the os and cervix uteri in their obstetric relations," which was listened to with attention, and will, without doubt, be soon given to the profession. We are glad to see that the Academy have been able to publish Dr. Thomas' paper, but beg leave to suggest that it would look as well to publish some that have been on file much longer with the order of publication. An inflexible impartiality in such matters is to be expected from the committee who control the printing.

—The annual commencement of the New York Medical College took place on Tuesday evening, March 2d. The Degree of M. D. was conferred on thirty-three graduates. Three Honorary Degrees were given to Gonzalo Jorin, M.D., Cuba, Professor Vincente A. De Castro, M.D., Cuba, and Dr. J. H. Bailey, U. S. A. Professor B. Fordyce Barker delivered the valedictory address to the graduating class.

At the New York University the Medical Department celebrated its annual commencement on the 10th March. There were one hundred and twenty-seven graduates. Prof. G. S. Bedford gave the address to the class.

The commencement of the New York College of Physicians and Surgeons was held on the 11th March. There were fifty-three graduates. Prof. C. R. Gilman delivered the valedictory address.

The Jefferson Medical College, Philadelphia, conferred the Degree of M. D. on two hundred and nine graduates at its commencement, held March 9.

The Medical College of Ohio, at Cincinnati, graduated forty-three young gentlemen March 2. The address to the class was given by the President of the Trustees, Hon. J. P. Foote.

The University of Michigan graduated, March 20, twenty-seven candidates for the Degree of M. D.

The Medical Department of the University of Nashville graduated one hundred and nine of its class.

The University of Pennsylvania had one hundred and forty-five graduates, and the Pennsylvania Medical College thirty-five.

At the commence of the Medical College of Georgia there were sixty-one graduates.

The New Orleans School of Medicine graduated thirty-three.

—The American Medical Association will meet at Washington the fourth of May, and we trust the meeting will be profitable. There are threatenings of action in Dr. Reese's matter, but we trust too much time will not be lost in the discussion of such a subject. This body owes it to the profession of the country to make its transactions more creditable professionally.

—To our exchanges we must say, that those out west, as at Columbus, Ohio, and St. Louis, which have a way of copying from the MONTHLY without credit, are requested to be more careful. The N. Y. Journal of Medicine, and Dr. Bryan's Journal, Philadelphia, do not reach us, and we shall be compelled to strike them from our list if they do not make their appearance before long.

—The Compound Syrup of the Hypophosphites, a formula for which is given in another part of the MONTHLY, has been prepared by Hege-man & Co., of this city, and is the pleasantest preparation of the hypophosphites we have seen. The syrup of the hypophosphates or chemical food, which has been so universally used, has a pungent acid taste, which is not present in the syrup of the hypophosphites. If the latter salts have, as it has been stated, a superiority over the phosphates, the present combination will be found a most desirable one.

—Queru's cod liver oil jelly, advertised with us, is to many a much more palatable way of taking this oil than any other, and should be tried. Another preparation of a like nature is the jelly of oil of ethal. This substance, which is in fact the head matter of the sperm whale, has been proposed as a substitute for the cod liver oil, and used to some extent in this city. Our own experience with it, though quite limited, has not been satisfactory. This jelly, however, is very palatable, although it contains 85 per cent. of oil.

—The vacancy, created by the resignation of Prof. Frick, in the chair of Materia Medica in the Maryland College of Pharmacy, has been filled by the election of Dr. Francis Donalson. The chairs of Chemistry and Pharmacy are still occupied by Professors Lewis H. Steiner and Israel J. Grahame.

The Importance of Physical Education.—The importance of *physical* education must be quite clear, when both Pythagoras and Mr. Gladstone recommend it. Mr. Gladstone, in his speech at the anniversary of the foundation of the Liverpool Collegiate Institution, stands up for this valuable principle. "There still remains," he says, "in some quarters a vulgar notion, that there is a natural antagonism between corporeal and mental excellence. I trust that corporeal education will never be forgotten; that the pursuits of manly sports will always receive the encouragement, not only of the boys who engage in them, but of the masters who are responsible for the welfare of those boys." One of the *aurea dicta* of the great philosopher just mentioned, we believe, recommends the same principle of care for the body. It was, indeed, a great point in ancient philosophy, the value it attached to the body, and the training of it, the preservation of its health, strength, and all its proper powers. Ancient philosophy did not despise the body, did not regard it as a mere husk, or outside of human nature, or treat it as a despicable and absolutely vile thing; it regarded the body as a true part of human nature, deserving of proper deference, for the failure of which it was sure to retaliate fearfully upon the whole man. Hence the gymnastics of the Greeks, which were not only fostered by the boxers and wrestlers, the drill-sergeants and corporals of that day, but went on under the solemn sanction of sages. There is a distinction between the tone of ancient and modern thought

on this subject, and the ancient has certainly an advantage over the modern on this particular point—at least, over the modern before the latest improvements. It has been too much the fashion with us to decry the body, to talk it down, to speak scornfully of it in every possible way, to be always comparing it with the mind for the sole purpose of showing how vile and worthless it is in comparison—a mode of speaking which, even if it is true abstractedly, may be indulged in such a degree as to involve a practical untruth. Our didactic books have been full of the praises of midnight oil, all our oracles of learning have been vehement in favor of unsparing study, and the mind has been subjected to the most acute stimulants, while the body has been left to take care of itself as it can. Of course, the great mass of our school and university youth takes the law into its own hands under these circumstances, and adopts very effective measures against being goaded to suicidal study; but a certain proportion have responded to the whip, and responded but too eagerly. These have been the tactics, we say, of our modern masters of the schools, and encouragers of learning—an unsparing use of the goad, a merciless appeal to student ambition and emulation, as if it was impossible to stir up these motives too deeply. But how one-sided is a discipline which applies this powerful, sharp, and penetrating stimulus of the mind, while it leaves the body to itself, or rather, what is worse, suppresses and flings aside the claims of the body, which has to fare as it can under the exclusive and oppressive dominion of its rival! How partial is such a system, and superficial because partial. After all our sublime abuse of the body, a body man has, and that body is part of himself; and if he is not fair to it, he will himself be the sufferer—not the corporeal man only, but the intellectual man as well. Particular capacities may receive even a monstrous development by the use of an exclusive stimulus, but the reason and judgment of man as a whole must be injured if one integral part of him is diseased. If the body is thoroughly out of condition, the mind will suffer; it may show a morbid enlargement of one or other faculty of it, but the directing principle—that which alone can apply any faculty or knowledge to a good purpose, can regulate its use and check its extravagances—is weakened and reduced. How miserable is the spectacle of morbid learning, with its buried hoards, and its voracious, insatiable appetite for acquisitions, united with the judgment of a child! Such study does, in sport, leave men children to all intents and purposes. We see children with remarkable memories and acquisitive powers, who know as much history, philosophy, and poetry as would make a learned man, but who are not a bit the nearer being men in consequence, because they simply know by rote what they know—they do not understand their own knowledge. This is to a considerable extent the case with all morbid learning, where the general intelligence has not been cultivated—which general intelligence depends on the soundness and health of the whole man, body and mind too.

The picture of a Kirke White dying at the age of 21 of nocturnal study, wet towels round heated temples, want of sleep, want of exer-

cise, want of air, want of everything which nature intended for the body, is not only melancholy because it is connected with an early death; it is melancholy also on account of the certain effect which would have followed such a course unchecked if he had lived. We see, when we look down the vista of such a life, an enfeebled and a prostrated man, very fit to be made a lion of, like a clever child, and to be patted on the head by patrons and patronesses of genius, without the proper intellect and judgment of a man. How sad even is the spectacle of that giant of German learning, Neander, lying his whole length on the floor among his books, absorbing recondite matter till the stupor of repletion comes over him, forgetful of time and place, not knowing where he is, on earth or in the moon, led like a child by his sister to his lecture room when the lecture hour came, and led away home again when it is over! Is this humanity, we ask, as Providence designed us to be? Is it legitimate, rational human nature? It can hardly be called so. It is against such an exhibition of human nature as this, which ancient philosophy very properly stigmatized in its precepts about the care due to the body, that Mr. Gladstone has just read a lesson to the Liverpool Institution. It is a very simple, but very weighty rule. We must not let the mind feed itself by the ruin of the body. The mind has no right to this indulgence, this dissipation, and whole length abandonment to its cravings, any more than the body has to sensual indulgence. This mental dram, the noxious stimulant which produces this overgrowth of mind, is as contrary to nature as the coarser stimulant which unduly excites the body. The mind should be a good, strong, healthy feeder, but not a glutton. We have no right to despise the body, or to speak of it only and exclusively as something which is vile in comparison with the mind. This language will lead astray. It will make ardent, ambitious, student youth neglect health, and abandon themselves to the process of acquisition at the cost of body, and ultimately of mind too. Do not use too unsparingly the motive ambition in dealing with youth. It is a motive which is perfectly honest and natural within proper limits, but when pushed to excess, it produces a feeble, sickly, unmanly growth of character; it creates that whole brood of fantastic theorists, sentimentalists, and speculators, which, in art, science, and theology alike, are the seducers and the corrupters of mankind.—*London Times*.

—Dr. Robert Nelson gives in the *Lancet* the following description of a *New Speculum Vaginæ*:

“It consists of a *potence*, movable handles, and removable blades, and is to be used with the handle upward, and not downward, as that of Madame Bolvin.

“The left pillar of the *potence* is a fixture to the upper bar, flat on each side, and a quick thread, chased on the upper and lower side, to which a milled nut is adapted. The right pillar fits to, and rides easily on, the bar, so that by a few turns of the nut the pillars can be separated to any extent of distension that the vulva is capable of; after which, by pressing the horns of the handle together, the uterine ends of the blades are made to expand to the full extent of the fundus of

the vagina, rendering it tense, if needed for cutting. The vulvar extremity admits of insinuating the finger and instrument during an operation, and their free movement in any direction, deeply as to the os tincae, or as superficially as to the nearest part of the vagina. There is room for the assistant to seize with a forceps and hold any part without embarrassing the operator by the presence of his hand, one working between the blades above, and the other below.

“The best shape for the bladder is quite flat, with the edges slightly bent inward. It must be made of steel, very thin, and electro-plated. Spare blades of various sizes, breadth, or length, and of any shape, to suit a particular case, may be added.”

—Mr. Wilde gives some *Aphorisms and Observations upon certain Diseases of the Organs of Sight*. These observations refer to treatment. After a strong recommendation of fomentations medicated in various ways, Mr. Wilde says of lotions :

“One of the best lotions I know of, in cases of accident or after operation, is cold water, iced, if more agreeable to the patient’s feelings; but, to be effective, it must be applied with a single layer, or two folds at most, of fine old linen or cambric, so that evaporation may proceed with facility, and such cloths should be removed whenever they begin to become hot or dry, which will much depend upon the heat of the parts upon which they are applied, and the temperature of the surrounding atmosphere. In such cases the difficulty consists in having the directions carefully followed up; for, on coming to visit the patient, we constantly find a quarter of a pound of lint or a folded pocket handkerchief, steaming hot, placed upon the affected organ. This need not be wondered at, when a recent work on ophthalmic medicine recommends the application to be made by ‘means of compresses!’ Another mode of applying the fluid, formerly much in use, was the eye-glass, and it is still recommended by some physicians. Although this was anything but a pleasant, and very often proved to be an injurious remedy, from the pressure it exercised on the inflamed globe, and the irritation which the stimulating fluid produces when coming in contact with so large a surface of the conjunctiva, yet it fulfilled the intention of the practitioner; for the eyelids being opened while the glass was inverted over them, and the head thrown back, the fluid absolutely came in contact with the conjunctiva and cornea, whereas now the lotion only touches the skin of the eyelids. Most vegetable and mineral astringents, as well as sedatives and narcotics, are employed by the ophthalmic prescriber, in collyria or eye-washes; for example, the preparations of opium, prussic acid, laurel-water, zinc, alum, lead, copper, and tannia; Minderus’ spirit, infusions of hops, green tea, or other vegetable astringents, and rose, elder, or orange-flower water are the generally vehicles employed. One of the injurious consequences of eye-washes, and one that has, notwithstanding all which has been written upon the subject, been but little attended to, is, that certain salts, particularly those of lead and alum, deposit themselves on the cornea, not merely in the pit of the ulcer, but where there is the slightest abrasion of its conjunctival surface. Spirit and water is also a useful application; but

neither dropped into eye nor used as a lotion have I seen much benefit derived from a solution of bichloride of mercury.

"The various holy wells in Ireland, to many of which pilgrimages were made from great distances, especially on their patron saint's days, in former years were all more or less celebrated for the cure of sore eyes. Indeed, whatever good they did beyond that effected by the faith in their virtues was in ophthalmic cases. Take, for instance, a case of strumous ophthalmia in a young, or chronic ophthalmia in an old person, who travels thirty or forty miles on foot, buoyed up by accounts of cures, said to have been effected at these popular watering places; and arriving there imbued with the most implicit faith in their efficacy, bathing the eyes continually with the cold clear spring, need we wonder at improvement following this most useful application, together with change of air and hope? Are not cures of other diseases among the upper classes effected through similar agency, although with more parade? but the poor Irish are sneered at, because their water cure is denominated 'superstition.'

"I have not found chloroform either in lotion or vapors effective in cases of photophobia; but latterly this symptom of disease has among all ranks of society lessened very much."

Poultices he does not recommend.

Collodion as an Erector of Flat, Undeveloped Nipples.—By coating the vicinity of the nipple, in a circle of an inch and a half wide, with collodion, the compression effected during the contraction of this adhesive material will cause the nipple to be protruded sufficiently to allow of convenient nursing, when otherwise it would be entirely impracticable. There should be a space of half an inch of the areola around and near the nipple left uncovered by the collodion. It is well known that if the nipple can be drawn until the tumefaction of the mamma somewhat subsides, there will be no further trouble, and it is believed this simple means will often relieve us of much anxiety upon this score.—E. K., *Med. Zeitung Russlands*.

Valerianate of Ammonia for Epilepsy.—In Salpetriere and the Bicetre at Paris, the following formula has been much used in epilepsy for years:

R.—Aqua distill.,	pts., 95
Acid valerian,	" 3
Sub-carb. ammon., Q. S., ad. neutralis acid adde.	
Ext. alcoholic valerian,	pts., 2

Mix. Dose, teaspoonful three times a day.—*Revue Medico-Chirurgicale*.

Glysters of Alum for Dysentery, by Dr. Hamon.—In two epidemics of dysentery the author has used alum very profitably. To children under ten years of age, he gives injections containing—owing to the difference in age—from 15 to 45 grains in solution. To grown persons, he administered from 60 to 120 grains at one injection. The patient should remain perfectly quiet on the abdomen or right side after receiving the glisters, and retain it as long as possible. The alum is

astringent, irritant, and disinfectant in its action. The offensive and putrid evacuations become entirely odorless after a few such injections.

When the disease is in its earliest stages, a few injections he found to be enough to effect a cure, and it was always beneficial. In one parish, in which there were thirty-five patients, all recovered; and in another of forty, only two died, and they were quite old people.—*Schmidt's Jahrbucher.*

Belladonna for Incontinence of Urine.—A female child, nine months old, had been affected with incontinence of urine from birth. The urine continued constantly to dribble away, and the clothes of the little patient wet with this irritating secretion.

The urine was clear, slightly acid, and without any abnormal sediment. The patient commenced 10th February, 1857, 1-24th of a grain of extract of belladonna, three times a day, and gradually increased it, until March 12th, when she was taking 1-12th grain, and so continued up to 26th of May, when she was so much better, that sometimes three or four nights would pass without her passing water during the whole night. Iron was now added to the belladonna, and the recovery henceforth was so complete, that the patient had complete control of the discharge; but it was necessary to continue the remedies much longer, before the irritability of the bladder was subdued, as it yet returned so soon as the belladonna was withdrawn.—*Schmidt's Jahrbucher.*

Expulsion of a Uterine Polypus, under the conjoint influence of Ergot and Belladonna, by Dr. Bezenconet.—After the author had given ergot to expel a polypus which appeared at the os uteri, with no other effect than pain and a closure of the mouth of the womb on its contents, he gave an injection per vaginum of the infusion of belladonna, so as to bathe the os in that fluid pretty thoroughly. After this, with the continued use of the secale, he had the satisfaction of seeing on the second day the polypus completely expelled from the uterine cavity. Dr. Beck has also seen the same result follow from these means in one case.—*Schmidt's Jahrbucher.*

A Novel Expedient.—Towards the close of this year, 1757, the Lying-in Hospital being then nearly finished, the wards on the upper corridor were furnished and prepared for use, and on the 8th December the institution was formally opened for the reception of patients. The Lord Lieutenant and a number of the nobility and gentry were entertained at breakfast in the hospital, after which “fifty poor women,” we are told, “great with child, attended in the hall with proper certificates of admission, and were all decently clothed in uniform at the expense of the hospital, each in a blue calimanco gown and petticoat, shift, handkerchief, cap, and apron; and thus they appeared before his Grace the Duke of Bedford, as President of the Hospital, the Duchess, and the rest of the governors and guardians, with many of the nobility and gentry, who all expressed the highest satisfaction.” Just picture to yourselves a large assemblage of ladies and gentlemen, from among the highest circles of nobility and gentry, being entertained with the spectacle of “fifty poor women great with child!” And yet such was the scene enacted within these four walls 100 years ago,

and at which all present expressed the "highest satisfaction." I suppose the history of the world does not supply another instance of such an exhibition to an aristocratic company. An idea so purely novel and unprecedented could only have emanated from the original mind of Mosse; and no other man could possibly have carried it into effect without offending good taste, and making a headlong descent from the sublime to the ridiculous."—*Dr. M'Clintock's Introductory Lecture.*

Blind Animals.—At the late meeting in the Zoological Section of the British Association, Mr. Perceval Wright, Director of the Trinity College Museum, read a paper on blind animals found in caves. It was pretty generally known to those present that various living animals had been discovered inhabiting the deep recesses of caves. About a century ago, the *Proteus anguinus* was found in the caves of Carniola; and since that time various insects, and crustacea, and even fishes had been discovered both in Europe and America. All these animals were found very far in the interior of the caves. In those of Carniola none were found within two miles from the mouth, and hence they never saw light; and as under these circumstances eyes would be quite useless to them, they are not provided with any, so that they are quite blind. Though blind, they never appear to stray into this upper world, but, impelled by some controlling sense, they keep in their native darkness, each cave having its own peculiar species, which never obtrudes itself upon its neighbors. This was a deeply interesting fact in relation to the theory of single centres of creation; as here they had a species, its centres of creation and the extent of its wanderings, all within the limits of one small district, resembling those plants and animals which inhabit some of the small islands in the Pacific and other oceans, and which are found nowhere in the world besides. The caves of Carniola were visited by Schiodte in 1851, and he gave subsequently a very interesting account of his researches. The animals which he found in these and other caves had helped to swell the already large list of blind animals. No blind animals have been found in England; but Mr. Wright and Mr. Halliday have found them in the caves of Michelstown, Ireland.—*Edinburgh Journal.*

Geoffroy Saint Hilaire.—A statue of this great Naturalist has been recently erected at Etampes, his native place, about forty miles south from Paris. Three distinguished *savants*, Dumeril, Serres, and Milne Edwards, attended the inauguration, and delivered short addresses, commemorating the talents and labors of Saint Hilaire. In 1793, at the early age of twenty-one, he was appointed Professor of Zoology by the recommendation of Hany and Daubenton. When his nomination was announced to him by the latter, he replied, "How am I to teach a science that does not exist?" "True," said Daubenton, "it does not exist; it must be created; let the bold task be yours, and yours the glory of enabling us to say, twenty years hence, that France has created Zoology." He devoted himself to the work with enthusiasm, and the product of his labors appeared in a long succession of Memoirs which were afterwards embodied in his voluminous *Histoire*

Natural des Mammiferes. He labored zealously to enrich the Museum, or Cabinet of Natural History, and to enlarge the menagerie. He was one of the *savants* selected to go with Bonaparte to Egypt, where he employed himself with great diligence in collecting specimens of the higher animal tribes from the delta of the Nile to the cataracts, and along the shores of the Red Sea. When Egypt was conquered by the British, his collections and those of other *savants* were claimed by a commissary as part of the victors' spoils. "*We will burn them sooner than suffer them to be taken from us* (said Geoffroy,) *and write on your forehead the brand of Omar, whose name glares on posterity through the flames of the Alexandrian Library.*" The claim thus roughly repelled was not persisted in, and the treasures gathered in Egypt formed the base of great scientific collections now seen in Paris. Geoffroy continued his labors on his return to France, and fully realized the anticipations of Daubenton; but we must give the result in the words of M. Serres, so characteristic of the taste of our vivacious neighbors. "Geoffroy l'entreprit (the task of creating the science) et les vingt années, n'étaient pas écoulées, que l'Europe savante *inscrivait la Zoologie au rang des litres glorieux de notre nation, déjà si plein de gloire.*"—*Ibid.*

Gymnastic Prizes at the Salpetriere.—An interesting ceremony took place at the Salpetriere, consisting in the distribution of prizes to the children in the gymnasium of the hospital. Gymnastic exercises are now under the able care of M. Laisne, carried on in that hospice, as well as at the Enfante Malades and the St. Eugenie, for the relief of diseases of the nervous system, and especially chorea. M. Blache states that, of 108 cases of children so treated, the cure was obtained in 102. The children exhibited their exercises both with and without gymnastic implements; and they all take great delight in the performance what to most of them becomes a valuable means of treatment. Those in the establishment who have been thus cured are retained to superintend the application of the means to the recently admitted patients.

Chemical Accident.—A rather serious accident took place recently in one of the lecture rooms in the Pesth University. A compound formed of cyanide of mercury and hydrochloric acid exploded, wounding Professor Wertheim and his assistant in the eyes. The pupils, seized with a panic, rushed to the door, and some jumped out of the window. In leaping out they broke a vessel placed beneath the window containing the hydrochloric acid, and several were injured by the fluid.

Mortality among Russian Army Surgeons.—The Gazette Médicale Russe informs us that Russia lost in the late war 382 Army Surgeons. We are not aware of the exact number of surgeons employed by the Russians during the war; but in the French service, of 550 surgeons, 83 (or 1 in 6 $\frac{1}{10}$) died in consequence of disease contracted in the Crimea.—*Gazette des Hospitaux, Nov. 5th, 1857.*

Therapeutic Action of Chlorate of Potash, with a New Mode of Administering it.—Dr. Dethan considers that chlorate of potash is a powerful silagogue, and that its elective action on the bucco-pharyngeal mucous membrane is well marked. To this physiological action is added a very remarkable and valuable success in pathology; its rapid and incontestable effects in mercurial salivation, by checking the formidable mercurial affection, have permitted practitioners to continue the mercury without fear, and thus to contend without remission against the constitutional infection. As an especial and incontestable remedy in ulcero-membranous stomatitis, this medicine need not, according to the physicians of the Hospital Saint-Eugenie, be swallowed; its topical application is sufficient, and in a short time the mucous membrane recovers its normal qualities and functions. Dr. Dethan concludes that the chlorate of potash, administered under a special form, which would permit the local action to be exercised slowly and certainly, although leaving the medicine to be carried into the stomach in a state of solution with the mixed liquids of the salivary, buccal, and pharyngeal glands, would be the mode of administration which would combine all indications and all opinions. He therefore suggests the use of the remedy in the form of pastiles, so that the patient may have at hand a remedy against the injurious effects of a mercurial treatment which he may be undergoing. The experiments of Dr. Ricord, and the publications of M. A. Fournier, testify incontestably in favor of this successful simultaneous medication. In certain forms of angina attended with fibrinous exudations, it prevents the intimate adherence of the false membranes to the mucous membrane, and facilitates their expulsion, and assists the action of emetics. In this affection the topical action of the chlorate, favored by the bruising between the teeth, the natural solution in the liquids of the mouth, and its penetration into all the points interested, will be certainly efficacious. In debilitating diseases, such as diphtheritis, and gangrene of the mouth, the child will find an agreeable and reparative kind of food, together with the most appropriate remedy hitherto discovered, against these diseases.—*B. and F. Med.-Chirurg. Rev.* Jan. 1858, from *L'Union Méd.*, June 4, 1851.

Movable Kidneys.—"The knowledge" says Prof. Oppolzer (*Wien Wochenschrift*, No. 43, 1856, and *Med. Times and Gaz.*, No. 362,) "of the possibility of the existence of this affection is of importance to the practitioner, as, when unaware of it, he may suppose the appearances observed to result from various other causes, and submit the patient to an injurious course of treatment, or it may give rise to unnecessary alarm upon his part. The abnormal movability usually affects but one kidney, and especially the right one; but the author has met with cases in which it was observable in both, and that in a remarkable degree. In all the cases he had the opportunity of examining, the patients dying of some other disease, the kidneys were found healthy; but in these cases there has been observable a deficiency in the cushion of fat, or an extension of the renal vessels. In some cases, the practitioner's attention has been drawn to the abnormality

by the patient observing a tumor on one or both sides of the abdomen, which only became perceptible while standing, or lying on one or the other side, disappearing again during the horizontal posture. Generally speaking, however, it is first discovered by careful exploration, when, beneath the relaxed, painless, and not very thick abdominal parietes, a largeish, rounded tumor is perceived, deep under the liver or stomach. The inner concave side can only be felt in very thin persons, and the upper end is only accessible in some. The tumor can be easily pushed upwards, and then may suddenly disappear; but it cannot be pressed against the spinal column, or downwards below the *crista ilii*, without great pain being produced. To very firm pressure, made in any direction, the tumor is sensible; and the patient spontaneously complains of a sense of pressure and dragging, especially when standing, performing active movements, during defecation, &c. In the cases seen by the author, the condition has been normal."

The affection is usually congenital, as is shown by the lengthened condition of the vessels. Rapid emaciation occurring in persons formerly fat, concussion of the body, as in rough travelling, constipation, &c., may probably contribute to its production. In fat persons the diagnosis may be impossible, but it is not difficult in those who are thin, as the form of the swelling can be traced, while the tumor can be pushed into the lumbar region, and there felt. The pain which it not unfrequently gives rise to, cannot be mistaken for neuralgia, colic, or rheumatism, if the practitioner will only make an exact exploration; while the tumor, resulting from a collection of feces, assumes another form, and does not appear in, or disappear from, the lumbar region, in consequence of pressure. It may also be distinguished from a movable spleen, as the latter lies in front of the intestines, under the parietes, and gives rise to dullness on percussion. It can only be confounded with cancerous and tubercular masses, when these are movable, and resemble the kidney in form. Treatment of this affection by bandages and the like, is of no avail; and the removal of it, when present, must be chiefly sought from the horizontal posture. Confinement of the bowels, and the consequent straining, must be avoided. It is, however, of great importance to tranquillize the mind of the patient as to the nature of the affection, and to prevent injurious measures being adopted: and hence the value of a correct diagnosis.

Mr. Adams was requested many years ago to examine the body of an old lady who was said to have "slipped her kidney." The right organ could be readily felt beneath the integuments in the lumbar region, and above the crest of the ilium. The only peculiarity revealed by a *post-mortem* examination was that the right kidney appeared to be bound down more loosely than usual. The patient, from having been very corpulent, had been much reduced in size. The condition of the kidney had nothing to do with the cause of death.

Dr. W. F. Wade states (*Midland Quart. Journ. Med. Sci.*, Jan., 1858,) that he has had under his care, during the past year, a female patient, whose right kidney is the subject of this curious abnormality. The symptoms and history of the case entirely confirm Professor Opolzer's remarks.—*American Journal*.

Books and Pamphlets received.

Outlines of a Course of Lectures on the Principle and Practice of Surgery, delivered by E. Geddings, M.D., Professor of Surgery in the Medical College of the State of South Carolina. Prepared by Thos. S. Waring, M.D., and Samuel Logan, M.D. Charleston: S. G. Courtenay & Co., 1858, pp. 560, 8vo.

The Institutes of Medicine, by Martyn Paine, A.M., M.D., LL.D., &c., &c. New York, 1858. From the Author.

Graham's Elements of Inorganic Chemistry. Philadelphia, 1858.

A Report on Diseases of the Cervix Uteri. By Joseph A. Eve, M.D., &c. Augusta, Ga., 1858.

Lectures on Sulphate of Quinia. By A. B. Palmer, A.M., M.D. Detroit, Mich., 1858.

Pestilential Diseases, and the Laws which govern their propagation. A letter from Elisha Harris, M.D., in reply to inquiries addressed by the Quarantine Commissioners. Albany, 1858.

Silver Sutures in Surgery. The Anniversary Discourse before the New York Academy of Medicine. By J. Marion Sims, M.D. New York, 1858.

An Essay on Prolapse of the Funis, with a new method of Treatment. By T. Gaillard Thomas, M.D., read before the N. Y. Academy of Medicine. New York, 1858.

Transactions of the Medical Association of Southern Central New York. Binghamton, 1857.

Fifth Annual Report of the Surgeons of the N. Y. Ophthalmic Hospital. New York, 1858.

Twenty-fifth Annual Report of the State Lunatic Hospital at Worcester. Boston, 1857.

Albuminuria, Independent of Organic Disease of the Kidneys. Read before the Medical Society of the County of Erie at its Annual Session, Jan. 12, 1858, by James M. Newman, M.D.

Thirteenth Annual Report of the Managers of the New York State Lunatic Asylum. Albany, 1858.

Researches on Primary Pathology, &c., Vol. II., by M. L. Knapp, M.D., &c., &c. Philadelphia, 1858.

The New American Cyclopædia, a popular Dictionary of General Knowledge, Vol. II. New York and London, 1858.

— Among the new publications announced as in press or already issued in Paris since the first of January, we note the following: Bouchard on Homœopathy; Broca on Electric Cauterization, or Galvano-Cautic; Chassaignac's Lectures on the Treatment of Hemorrhoidal Tumors by linear ecrasement; Debrout on the treatment of Vesico-Vaginal Fistulas by bloodless operations; Giraud-Teulon on the principles of Animal Mechanics, or a study of locomotion in man and the vertebrated animals; Labelonye on Digitalis and the best method of using it; Maurice, note on a hydatid mole observed by the author; Orfila's Lectures on Toxicology; Perrussel's simple answer of a friend of homœopathy to an enemy of progress and truth in medicine.

THE AMERICAN MEDICAL MONTHLY.

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ESSAYS, MONOGRAPHS, AND CASES.

Paralysie Générale. By M. H. RANNEY, M.D., Resident Physician of the N. Y. City Lunatic Asylum.

This disease has been but recently discriminated from other forms of paralysis. The attention of the medical profession was first called to it by Esquirol, within the present century. It may have been confounded, perhaps, with the results of apoplexy, ramollissement, tumors, tubercles, &c., of the brain. It is a singular fact, however, that its frequency has greatly increased during the last sixteen years, as will be seen by reference to the various annual reports of the Superintendents of American Hospitals for the insane. In the report of the McLane Asylum, for the year 1844, Dr. Bell remarks, "I have regarded it as a somewhat curious fact, that it is only within the last three years that this disease has been admitted to this institution. As late as my visit to Europe in 1840, it was unknown within our walls; nor, after seeing it so often manifested there, can I recall any case in our register which would at all meet its characteristics, rendering it certain that it was not overlooked. Since that period, however, we have abundant evidence that it is not a form of disease peculiar to other countries."

The recent investigations by Calmeil, Foville, Rodrigues, Falret, and others have thrown much light on its nature and character. The

name adopted by Esquirol does not give a correct idea of the disease. There is not usually complete paralysis, but the power of volition is partially lost, so that muscular action is imperfect and unsteady.

The characteristics of this disease are found in the paralysis, and in peculiar mental aberrations. Either the physical or the mental affection may be antecedent in its manifestation.

The first paralytic symptom is an affection of the muscles of the pharynx and larynx, which changes much the tone of voice and produces a difficulty in articulation. There is a peculiar "cracked" husky tone, and a hesitancy between syllables and words like stammering. A slight excitement produces a spasmodic action of the muscles of the face, particularly about the corners of the mouth and eyes. The tongue when protruded is tremulous, and thrown forward by successive efforts resembling the spasmodic action observed in chorea. The face becomes expressionless; as the disease progresses all of these signs become more marked, and a difficulty occurs in locomotion. The patient totters in his gait, and if he attempt to change suddenly his direction, is likely to fall. In falling he makes no apparent effort to recover himself, and his head strikes with equal force as other parts of his body. Deglutition is gradually impeded, and eventually there is a loss of control over the sphincters. In most cases epileptiform convulsions follow at intervals, varying from one week to three months, each of which seems to lessen the vital power of the system, and to increase, temporarily at least, the extent and degree of the paralysis.

The mental changes are marked both in the susceptibility and intellect. The patient is restless, constantly moving from place to place, peevish, fretful, and impatient of contradiction. He is ever discontented with his present condition, although the past and future afford unalloyed happiness. Opposition to his wishes is soon forgotten. Recent events are generally but feebly retained, while the past affords to his mind images of unparalleled success, and the future glows with day dreams of great achievements to be performed, or noble actions done. The disease may assume the form of mania, monomania, or dementia. The most prominent and usual characteristic is generally exaltation of the imagination. The belief is permanent, that he excels in everything, and possesses strength, wealth, influence, and intellectual capacity far beyond that of any human being. They who were previously endowed with a brilliant imagination, and had received high mental culture, present visionary schemes of the most attractive character. Their language is well chosen, and their style highly poetical. They project ships on an immense scale, and palaces of pure gold, control king-

doms, and discover the secrets of Providence. Great subjects alone occupy their attention. The following extract, from the register of the N. Y. City Lunatic Asylum, illustrates this phase of the disease. The imagery of the delusions is entirely that of the patient, and his style and language is retained as far as practicable.

“H. H., born in Virginia, age 32, admitted 1853. After receiving his degree at Yale, he was supplied with an abundance of money, and unrestrained in the gratification of every desire. His funds becoming exhausted, he endeavored to obtain a living by his own exertions, but with indifferent success, on account of the impairment of his mind and health through the influence of his former habits. His system is very feeble, and a large ulcer upon one of his limbs renders him almost helpless.

“The imagination of H. H., naturally active, is morbidly exalted. He believes himself to be the ‘Earl of Warwick, the King—Maker,’ and adds to the singularity of the delusion, by the conception that he is fourteen feet high, and large in proportion. He wishes to purchase the asylum and all its contents, proposes to bestow the most magnificent presents and the most extensive estates upon the physicians, and signs papers to that effect. Nothing is beyond his reach by reason of its expensiveness; nothing too good for his friends. His clothes are of the finest cloth, lined with the most costly satin, decked with intricate embroidery, and ornamented with buttons of enormous diamonds. For him magnificent pictures adorn the walls of mansions, which the highest architectural skill has reared. The souls of Praxitiles and Canova shine through the marble monuments of their art which fill the corners of his libraries. Through the stained-glass window, shaded by the heavy folds of Genoa velvet, the light falls upon the most rare editions of the works of those men, whose literature is eternal.

“Carpets, the delicacy of whose tints rival those of the summer cloud at sunset, cover the floors of his apartments. Tables inlaid with precious stones, which cause the envy of the brightest stars of heaven, uphold wines sparkling upon the brim of golden goblets, as if anxious to kiss the lips of the drinker, and viands which have been prepared with the consummate skill of the highest culinary art. Flowers of supernatural beauty, whose delicate perfume angels might use on their spotless garments, fill his conservatories.

“Among the spreading branches of the trees of his pleasant gardens birds of brilliant plumage and unrivalled song pour forth their sweet voices in harmony with murmurs of fountains, whose silver-edged

bubbles ripple over pearls and garnets, and whose banks are clothed with the herbage and verdure of the tropics."

Even they who previously possessed but little imaginative power evince now the most lively conceptions. Matters of common occurrence may occupy the attention, but are so vividly and fancifully described as to render it difficult to detect the real nucleus of fact. The exhilaration produced on certain individuals from stimulating drinks bears some resemblance to the expansive ideas in this form of paralysis. These delusions continue until the disease has progressed to a low state of dementia. There is an occasional exception to the general rule of exaltation. In such cases the mind seems depressed and enfeebled from the commencement of the attack, and the paralytic symptoms are very strongly marked.

The presentation of symptoms and the diagnosis being the principal object of this paper, I select a case from Esquirol, in which the prominent characteristics are given. "M. L. D., thirty-eight years of age, had participated in the last campaigns of the empire, and was elevated to the rank of colonel after the restoration; uniting to every physical and intellectual quality all the advantages of a lofty position in society, and a large fortune. He was of the opinion that he had experienced injustice on the part of the government. His self-love was deeply wounded, and after many days of insomnia he gave himself several thrusts with a knife in the region of the heart. He was promptly succored, and his services were but for a brief period discontinued. From this time he expressed with bitterness his dissatisfaction, but was in no respect less exact in fulfilling his duties as a commanding officer. Two years subsequently he has an attack of cerebral congestion, for which he is largely bled. Two days later he has a second attack, more severe than the first. He remains excited, talks much, is agitated, irritable, and exacting. He does not sleep, and after a third attack a true mania is developed. The delirium is generally attended with agitation and notions of grandeur and fortune. He commits a thousand extravagances, remains almost naked, talks incessantly, cries aloud, orders a thousand things at once, is impatient, and commits strange and imprudent acts, which compromise his life, though he entertains no idea of suicide.

"Several physicians are called in consultation, and the maniacal state of the patient cannot be denied. His age, however, and the brief duration of the disease, offer to the counsellors expectation of a cure. I affirm that the patient will never recover; 1st, because three severe attacks of cerebral congestion had preceded the maniacal state, and

that, consequently, there was some degree of cerebral lesion; 2d, because, notwithstanding his excessive loquacity, certain words are imperfectly pronounced, and because his gait, although lively and active, is uncertain. I added, that active medication would hasten the progress of the disease; that the country, exercise, a severe regimen, and the repeated application of leeches to prevent new congestions, appeared to me to be the only proper course. One of the consulting physicians did not concur with me in my unfavorable prognosis, and proposed certain tentative measures.

“After a month spent in fruitless attempts, we were obliged to renounce all hopes of cure. Paralysis had progressed and dementia was confirmed—the patient retaining incoherent notions of grandeur, which persisted for more than two years. He regarded himself as the possessor of several provinces and kingdoms; distributed palaces, and gave away millions, and commanded also an army of giants. His cavalry was mounted upon horses of gigantic size; he possessed palaces of diamonds, and his stature was 20, 30, and 40 cubits in height. He talked both night and day; now in a low tone, now loudly. He also uttered loud cries. Beset by hallucinations of hearing, he listened to the voices of imaginary beings, and replied to them, boasting of his person, disputing with and even abusing them. He recognized the members of his family, and addressed them with amiability and politeness; but after a brief interval, however, resumed his habits of constant conversation. He was sent into the country.”

Paralysie générale occurs more frequently among males than females; in fact, among the latter it is of rare occurrence. No good reason has been assigned for this—the predisposing and exciting causes to which the disease is referred being found in operation in both sexes. At Charenton, of 619 insane (366 men and 253 women) there were 109 cases of general paralysis, (95 males and 14 females.) Into the Asylum at Halle, in the Tyrol, 257 men and 181 women were admitted, among whom were 28 cases of general paralysis, (22 men, 6 women.) In the New York City Lunatic Asylum, of 5,092 (2,391 men, 2,701 women) under treatment within the last eleven years, 85 deaths have occurred (76 males, 9 females) from this disease. It is a disease of adult life, rarely occurring before the age of twenty-five. Those of a sanguine temperament are more liable to an attack, especially if of a full habit, with a tendency to apoplexy. It occurs to a great extent in the class called *good livers*, who remain up late at night and indulge in suppers with a free use of wine, the mind at the same time being actively engaged. Venereal excesses, a free

use of mercurials, syphilitic diseases, a hereditary taint of insanity, or scrofula—in a word, everything that tends greatly to deteriorate the blood, impair the constitution, or lessen the vital power of resistance, may act as a predisposing cause. The exciting cause is generally some sudden mental shock—a loss of friends or property, great anxiety in business matters, or it may be an indulgence in very great excesses.

There are various diseases with which it has been and may be confounded. “*Ramollissement du cerveau*” has some symptoms in common with it; but the continued pain in the head, occasional vomiting, rigidity of the flexor muscles of the limbs, and stupidity, instead of exaltation of intellect, seem sufficient to distinguish it from general paralysis. In the last-named disease there is also a softening of the brain, but it is the cortical portion that is particularly affected, and this gives rise, usually, during its progress from irritation to softening, to the peculiar mental symptoms that have already been described.

Cerebral hæmorrhage is usually accompanied by paralysis of a hemiplegic character, and its sudden invasion with the ordinary apoplectic symptoms is a distinguishing feature in its diagnosis.

Inflammation of the brain or its membranes, as well as the affections of the spinal cord, might lead to error from superficial examination, but the rapid progress of the one and the paraplegic character of the other, without any peculiar mental aberrations, would indicate the nature of the disease. Delirium, arising from inflammation, differs essentially from delusions. There is generally a low condition of the system; the mind is not occupied with external objects, but seems to retire within itself, and in a half comatose state is manifested by incoherent mutterings without, ever exhibiting the reasoning power of insanity.

Paralysis caused by mercury, alcohol, or lead, may be distinguished by a careful study of the causes and symptoms, the muscles of the extremities being in these cases at first affected either with numbness, trembling, or a complete paralysis of the extensors.

Morbid growths of the brain, such as tumors, (malignant and non-malignant,) tubercles, &c., present many features in common with general paralysis. The character of the morbid growth can be inferred only from the particular diathesis, or by the external manifestations, the paralytic and mental conditions involved in them depending principally on compression and inflammation, with its sequences. The change occurring in the mental faculties is that of general enfeeblement, presenting eventually the ordinary characteristics of dementia.

The last stage of general paralysis closely resembles this, and its discrimination requires a knowledge of the previous history and a careful analysis of the successive order of the paralytic symptoms.

The following is selected from the case book of the New York City Asylum, as an illustration of this error in diagnosis. It had been considered as the effect of a morbid growth in the brain, previous to admission. "C. L. S., æt. 36, by profession an actor, was on the 10th of December, 1856, admitted into the Asylum. When admitted, he was found to be completely demented, paralyzed, unable to walk or stand, and with difficulty to swallow. He lingered nine days, when the disease terminated in death.

"The following history of the case, communicated by his brother, together with the post-mortem appearances of the brain, indicate the form of the disease of which the patient died to have been *paralysie générale*. His brother states that he had always been a temperate man. Some two years since, in consequence of domestic and business troubles, he passed through a period of great mental anxiety and excitement.

"A year ago last October, while in Philadelphia, he exhibited strong symptoms of insanity of a maniacal character, succeeded by a condition of prostration. Soon after recovery of physical health, a change in his character was noticed; he became irritable, impatient of contradiction; at times despondent, and then very sanguine of success in his profession and business. His time, following such recovery, up to April last, was spent in forming business plans and studying the important characters of Shakespeare, in the belief that he was to become a prominent actor, although his friends knew him to be incompetent in this respect from the great impairment his memory had lately suffered. When slightly excited, twitching of the corners of his mouth and tremors of the muscles of his face were noticed; his tongue was protruded with difficulty, and his voice altered and 'cracked' in its tone. All of these symptoms increased in intensity about the beginning of April last, when, on the 8th of that month, he had a convulsion of an epileptiform character, as described by his brother, followed by prostration. From this, he afterwards gradually improved until August last, when he had another severe convulsion, followed by loss of consciousness. For several hours previous to this last convulsion, it was noticed that his left arm had become paralyzed. He was then taken to a hospital, and for a short time improved so as to be able to walk about the ward, and regained considerable power in the use of his tongue and arm.

“During the four months he remained there, his brother states that he had several convulsive attacks similar to those already mentioned, followed each time by increasing helplessness and greater loss of mental power, until he became reduced to the condition in which he was brought to the Asylum. Autopsy fourteen hours after death: skull a quarter of an inch thick, and of a texture less dense than usual; dura mater and arachnoid closely adhered over summit of cerebrum; arachnoid thickened, and presenting an opaline appearance, with serum between it and pia mater; general appearance of brain, atrophied; the cortical structure somewhat softened and easily scraped with the knife or finger-nail from the white medullary substance; this latter was found to be hardened, of firm texture, and glossy in appearance; the ventricles were largely distended, and contained 3iv. of clear serum; the floors of both lateral ones had a feeling of roughness to the touch; the foramen of Monro was large and patulous, easily admitting the end of the little finger; the middle or soft commissure was wasted to a thin ribbon of almost transparent membrane; the pons varolii and medulla oblongata were of less than usual size, and the pituitary gland shrunken, and the upper portion of its peduncle enlarged. The weight of the brain, drained of the serum in its ventricles, was two and a half pounds, which is some ten ounces less than the average given by Solly.”

The most common pathological change in *paralysie générale* is a softening of the vesicular neurine of the brain, especially in the anterior portion of the parietal regions. Sometimes the tubular neurine is also involved. Various other changes are occasionally found, such as thickening of the membranes, effusion of serum, induration of the cerebral substances, &c., but with no particular uniformity; and these, in fact, are found in many of the chronic diseases of the brain. The length of time in which the disease has progressed, must necessarily vary the cadaveric phenomena, and if death occur very early, there may be no manifest softening; yet from this it does not follow that it has not been in progress, that there is no organic detritus. Either a subjective cause like over-excitement of the mind, or an objective one like intemperance, or moral and physical causes combined, may over-stimulate the brain, and its continuance result in congestion, from which condition serum may be effused into the primitive cellules, causing irritation that may or may not end in softening. Why softening follows in this form of paralysis, but not in ordinary congestion, is not well settled. It may depend either upon some particular predisposi-

tion on the part of the patient, or upon some unknown peculiarity of the disease.

The prognosis is highly unfavorable. Rodrigues mentions a few cases of recovery, but by most the disease is considered incurable. Death follows, generally, in from one to three years after the first symptoms appear, but life is occasionally prolonged beyond the last-named period. If it occur early in the disease, the termination is usually by epileptiform convulsions; if at a late period, from general exhaustion, or disease of some important organ other than the brain.

The object of this communication being merely to call the attention of the profession to the general characteristics of this form of paralysis, I will not dwell upon the subject of treatment.

M. Rodrigues recommends the adoption, at an early stage, of active measures, such as frequent venesection, &c. After the disease is somewhat advanced, he advises the occasional abstraction of blood, in connection with tonics, aromatics, and cold baths, while at a later period he recommends laxatives, and revulsives to the skin. The treatment of M. Rodrigues has not been found successful when adopted by others, although he gives a very favorable account of its results.

The observance of general principles of treatment to meet the indication of the symptoms has seemed to be attended with as much benefit as the adoption of any other system. I have seen more temporary good effects follow the use of a seton, or the free application of Ung. Tart. Ant. to the back of the neck, than from anything else in the way of treatment. If at a very early stage the habitual excesses which had partially undermined the system were corrected, and a careful hygienic course pursued, some hopes might then be entertained of a gradual restoration.

Veratrum Viride in Pneumonia. By W. C. ROGERS, M.D., Green Island, N. Y.

Caroline G., 15 years old, of sanguineo-nervous temperament, strong constitution, and good general health, was taken on February 1st, 1858, after a slight exposure, with cold chills followed by fever, intense thirst, pain in the upper portion of the left lung, accompanied by cough, accelerated pulse, and increased respiration. She was treated with the usual domestic remedies, warm pediluvia, mustard cataplasms to the chest, warm herb teas, &c., &c., until the morning

of the 4th, when I was sent for. I found her with the symptoms detailed above, the pulse 130, respiration 25, cough severe and harassing, with severe pain and tenderness upon pressure in the upper lobe of the left lung. Auscultation revealed extensive inflammation of the upper lobe of the left lung in the first, and advancing into the second stage. Ordered a large emollient cataplasm to be applied to the chest, and exhibited two five-grain doses of calomel, to be followed by castor oil, and grain powders of equal parts of camphor, opium, and ipecac to be taken every four or six hours. For the purpose of reducing the pulse and lessening the fever, Tilden's Fluid Extract of Veratrum Viride was given in six-drop doses every four or six hours, alternating with the anodyne powders. The following table of symptoms and treatment will greatly facilitate the record of the case:

Date, &c.	P'lse.	Resp.	Drops.	Remarks.
4th—9 A. M.	130	25	vi.	Calomel; castor oil; anodynes.
5th—9 "	90	20	iv.	Bowels moved during P. M. of 4th.
6th—10 "	88	20	..	Omit V.V. Tart. anti. $\frac{1}{2}$ gr. every 4 hours.
7th—10 "	88	20	..	Purged in night.
8th—10 "	88	20	..	Much improved. Expectorating freely. Sent for at 2 P. M.
8th—2 P. M.	150	50	viii.	Upper lobe, right lung, involved in extensive and intense inflammation. Left lung very painful; cough harassing, with no sputa. Blister 4x6 inches over left lung. Poultice over the entire chest.
8th—8 P.M.	140	50	viii.	Calomel in half-grain doses every 4 hours.
9th—9 A.M.	90	40	vi.	Continued Calomel.
9th—9 P.M.	90	40	vi.	" " " "
10th—10 A.M.	60	30	iv.	Gum touched. Calomel omitted. Nausea.
10th—7 P. M.	80	40	vi.	Morphine to allay pain, and induce sleep.
11th—10 A.M.	75	40	vi.	Slept well. Improving rapidly.
11th—7 P. M.	72	40	v.	Expectorating quite freely. Nausea.
12th—10 A.M.	70	40	iv.	" " " "
13th—10 "	72	35	iv.	Very much improved.
14th—10 "	72	30	iii.	" " " Sat up.
15th—10 "	72	30	..	Omit V. V. Tonics. Sits up.
16th—10 "	72	25	..	Cough easy. Expectorations very free.
17th—10 "	72	20	..	
18th—10 "	72	20	..	Convalescing rapidly. Discharged.

On the night of the 7th the patient was purged quite freely, and the mother, exhausted by previous watching, having allowed the fire to go out, the patient contracted a very severe cold, which resulted in double pneumonia of a formidable character. The veratrum viride

and the proto chloride of mercury, given in small doses, and frequently repeated, allayed the fever, thirst and pain, reduced the pulse, and equalized the respiration and circulation in a very marked and satisfactory manner. And the effect was precisely the same in those violent exacerbations of the symptoms which are not unusual in this disease. It acted "like a charm." I have also used it in many other cases of pneumonia where it was not contra-indicated by feebleness of the pulse, or a typhoid tendency, and always with the same results. In one or two instances of continued fever, where the pulse was very frequent and free, I used it freely, but was obliged to discontinue it, as it produced feebleness of the pulse, with frequent intermissions, while it had little, if any, effect upon the frequency of the same.

Has it any specific effect upon an inflamed tissue? Does it modify or arrest inflammation? To this I should say *no*, most emphatically. The inflammation goes on to its legitimate results, entirely uninfluenced by the remedy. By its administration you can reduce the pulse to any desired limit, as in the case just related, where at 2 P. M. of 8th inst. the pulse was 150, full and bounding, and at 9 A. M. the next day, 19 hours after, was reduced to 90, a reduction of 60 pulsations per minute. The febrile symptoms had suffered the same diminution. *And this is the sum of its virtues in the treatment of any disease.*

Assuming that at each pulsation of the heart two ounces of blood are expelled therefrom, and pass into the pulmonary and general circulation, we have the entire amount of blood in the system passing through the heart and lungs in from two to three minutes, more or less, the pulse averaging 75 per minute. With the pulse as high as 150, we have the entire mass of the blood passing through the heart and lungs in less than one and one-half minutes. Now in acute pneumonia, and especially in acute double pneumonia, where the capacity of the lung is greatly diminished, and the demand for pulmonary activity is increased in a corresponding ratio, we have an increased quantity of blood pouring into the tender, inflamed and congested lungs; every respiration becomes a pang, and every pulsation of the heart adds suffering to suffering, until the patient sinks under the combined reactions of the disease, the respiration and the circulation. With the veratrum viride the circulation is entirely under control, the respiration measurably so, while the disease goes on to its termination. The benefit you gain from its use is this: you very greatly diminish both the amount of blood poured into the lungs in a given time, and the force with which it is ejected by the heart; you diminish the number of respirations, from the fact that you have diminished the func-

tional activity of the lungs by diminishing that of the heart; you in this manner afford the lungs such a degree of repose—so to speak—as is most favorable to a speedy resolution of the disease, and you have done all this without the loss of an ounce of vital fluid, and your patient is saved from sinking into a typhoid condition, or, if that complication supervenes, is far better prepared to combat the disease. If pushed to the extreme point of tolerance, the pulse may be reduced very low, as low even as 40 or 50 per minute, but its use to this extent is not only uncalled for, but is even decidedly dangerous. No more should be given than is necessary to bring the pulse down nearly to the natural standard, and to mitigate the severity of the symptoms. It is a very valuable adjuvant in the treatment of certain febrile and inflammatory diseases, but cannot in any sense of the term be styled a specific, nor should it be used to the exclusion of those other remedies which the experience of centuries has shown to be so efficacious in the treatment of inflammatory and febrile affections. It is of very great value as an adjuvant, but the range of diseases to which it is applicable is limited, and its use requires the constant supervision of the physician, and the exercise of his best judgment.

The Physiological Researches of Dr. Brown-Séguard. By E. R. PEASLEE, A.M., M.D. (Concluded from page 360.)

RESEARCHES ON THE MUSCULAR SYSTEM. (Continued.)

X.—*The muscular and the nervous systems are normally excited by venous blood.* The new property discovered by Dr. B-S. in venous blood, is its capability of exciting all the contractile [muscular] and nervous tissues, so as to produce the kind of action belonging to each. Any agent which excites, merely provokes the manifestation of the vital properties of the tissue to which it is applied; e. g. galvanism, heat, cold, light, and certain acids and alkalies. Several physiologists have maintained that the blood is an excitant; but they understand the word in another sense, viz., that the blood *increases* the vital properties; which is a phenomena of *nutrition*, and not of *excitation*. It will be seen, further on, that the arterial blood augments the vital properties without producing excitation, while venous blood diminishes these properties while exciting them. Some authors, however, have attributed a true excitant property to both arterial and venous blood, but only in their action on certain tissues.

Dr. B-S's experiments led him to the discovery that venous blood is an excitant to the uterus, the heart, the intestines, the bladder, the iris, the blood-vessels, and the muscles of animal life. By injections of venous blood into the arteries of these parts and organs, contractions are promptly produced.

He has also ascertained that the nervous system, and especially the spinal cord, may be energetically excited by venous blood.

On the other hand, arterial blood does not act as an excitant, at least not manifestly. It *produces* vital properties; while venous blood *excites their manifestations*, as the two following experiments show. (1) Into one of the two posterior extremities of an animal just dead, arterial blood was injected, and into the other, venous blood. Contractions occurred in the latter limb, but not at all in the other. (2) Into the extremities of another animal some time dead, and just beginning to manifest the rigor mortis, the two kinds of blood were injected as before. The arterial blood regenerated the vital property [contractility] of the muscles, but there was no contraction unless an excitant was applied; but the venous blood produced no effect on the other limb.

Carbonic acid gas is the principal (if not the sole) agent in the blood which possesses the excitant property; and oxygen the principal one which maintains or regenerates the vital properties of the tissues. Arterial blood deprived of a portion of its oxygen, acts as an *excitant*; and venous blood deprived of its carbonic acid, nourishes and regenerates the tissues like arterial blood. An excess of either of these gases in the blood, therefore, makes it more excitant, or more regenerative, as the case may be.

Many facts published by Dr. B-S. also demonstrate (1) that carbonic acid is an excitant of certain parts of the nervous system; (2) that the more carbonic acid gas there is in the venous blood, the more powerful excitant it becomes of the nervous centres, of certain nerves, and of the muscular tissue.

Venous blood normally manifesting only the feeble excitant property sufficient to provoke the normal contraction of the heart, and the respiratory movements, becomes so powerfully excitant in asphyxia as to produce very violent convulsions in man and the lower animals. And the more sudden the asphyxia, the more violent are they; since in that case the carbonic acid more rapidly accumulates in the blood. The following facts have been established. (1.) The muscles of animal life, (and especially those of the face,) the intercostal muscles and the diaphragm, contract strongly during asphyxia, though separated

from the cerebro-spinal centre, by the division of their nerves. (2.) The spinal cord is so excited during asphyxia, although separated from the encephalon by division in its dorsal region, that violent convulsions occur in the paralyzed limbs, demonstrating that convulsions occurring in an asphyxiated animal, whose spinal cord is intact, do not depend on a feeling of need of air, (*besoin de respirer*,) as some have maintained. (3.) The intestines, the bladder, the uterus, the ureters, the dartos, the *vesiculæ seminales*, the iris, the gall bladder, the thoracic duct, &c., contract in asphyxia.

The *uses* of venous blood are inferred from the preceding facts. It excites the muscular and the nervous tissues. (1.) Its principal agency certainly is the excitation of the heart, which will be considered under the next head. (2.) But it also gives us the sensation called the "*besoin de respirer*," and which results from its excitation of all the sensitive nerves and their centres, especially the centre of the respiratory movements, (*nodus vitalis*) in the medulla oblongata. (3.) Finally, venous blood excites the uterus, and thus aids the other causes of its contractions in parturition.

But venous blood also acts an important part in many convulsive diseases, and in cases of poisoning, attended by asphyxia. The first phenomenon of asphyxia in cholera, is a contraction of the pupil; a sign, when well marked, of approaching dissolution; although, as sometimes happens, the other choleraic symptoms are not yet very grave. And the singular motions after death by cholera, depend on a direct excitation of the muscles, by the venous blood. The expulsion, in some instances, of the foetus from the uterus after death depends on the same cause. And the acts of evacuation of the rectum and bladder just before death, so well known to nurses, is also produced by the excitation of the venous blood in these two organs respectively.

XI.—*Discovery of the principal cause of the contractions of the Heart.* Dr. B-S. considers that he has discovered this cause. All other contractile [muscular] tissues are susceptible of rhythmical movements, as well as the heart; e. g. the intercostal muscles, the diaphragm, and the muscles of animal life. The question is not, therefore, as to the cause of the difference between the heart and the muscles; but what is the exciting cause of rhythmical movements wherever found?

We know of but two agents capable of exciting the contractions of the heart and the muscles, independent of external agencies, viz., (1.) The nervous system; and (2.) The blood. Though the former may, in certain cases, excite the rhythmical movements of the heart and

muscles, many facts demonstrate that they do not depend upon it, and generally occur without its intervention. Ordinarily, therefore, these movements are excited by another cause, and consequently by the blood. But for the proof. Haller approached the discovery of the exciting cause of the beats of the heart, in admitting it to be the blood. But he erroneously supposed it produced this effect while in the cavities of that organ. This cannot, however, be true, since the heart may still beat forcibly and frequently, when its cavities are empty. Still, it is certain, both that the exciting agency of the blood may be exerted through the endocardium, and that the shock produced by its arrival in its cavities may excite the heart to contract.

But the great exciting cause of the beats of the heart, and of rhythmical movements generally, is found *in the blood-vessels of this organ*, and of the muscles alluded to; and the cause itself is the venous *blood*, or blood containing a considerable amount of *carbonic acid*. But the effects of venous blood have been specified under the preceding head, where it has been shown that the heart beats with more strength and rapidity in proportion to the amount of this gas in the blood.

Why are rhythmical movements produced by black blood? We can only say it is a property of blood charged with carbonic acid, to cause alternate contraction and relaxation of the fibres of almost all the muscles.

XII.—*Explanation of the paradoxical experiment of the Brothers Weber, respecting the suspension of the beats of the Heart.* When a motor nerve distributed to a muscle is galvanized, a contraction ensues therein. But the Brothers Weber found that when the pneumogastric nerves at their origin, or the medulla oblongata, are galvanized, contractions of the heart are not produced, but on the contrary are entirely arrested. The drollest explanations of this phenomenon have been given.

Dr. B-S.'s discoveries, however, afford the true explanation. According to most anatomists of recent times, and some of the present, the pneumogastric nerve gives no fibres to the muscular tissue of the heart. This is too exclusive an assertion; but it is certain that most of its fibres are distributed to the blood-vessels. Experiments prove that these are especially the *vascular* nerves of the heart. Thus, when they are galvanized, the vessels of the heart contract; when they are divided, the latter become paralyzed and dilate.

The experiment of the Brothers Weber is, therefore, easily comprehended. If the pneumogastric nerves are galvanized, the vessels of

the heart contract; and since, as Dr. B-S. has proved, the beats of the heart depend on the excitation of the blood in those vessels, it should, in the circumstances, cease to beat.

The following is an experiment confirming the theory of the beats of the heart, just enumerated. If a moderate galvanic current passes at the same time through pneumogastric nerves and the substance of the heart, its contractions continue; but they cease the instant the current is withdrawn. Re-apply the latter, and the beats are renewed; and this may be often repeated. The explanation is this: The current through the nerves alone would have stopped the beats, as above explained, (by contracting the vessels;) but that through the muscular *fibres* supplied a direct excitation instead of the one thus withdrawn. And when both currents are interrupted, the vessels *still remain contracted*; and now neither effects of the nervous blood nor the direct excitation of the fibres, by the galvanic current, remain, and the heart ceases to contract.

Dr. B-S. has also found that the sudden destruction of the medulla oblongata in frogs produces a sudden suspension of the beats of the heart, as does galvanization of this part of the nervous centre; [thus doubtless affecting the vessels in the same manner.]

XIII.—*The effect of light, and of a change of temperature upon the motions of iris, in the five classes of vertebrated animals.* (1) It is a very interesting discovery, both to physiology and to physics, that light, which has been supposed to excite the retina only, is also a direct excitant to contraction of the circular fibres of the iris. This influence is most manifest in the Batrachians and in fishes.

A.—If the eye of an eel or of a frog, removed from the orbit and completely denuded, is exposed to the action of light, the pupil promptly contracts; and if the eye is then put into a dark place it again dilates. From 50 to 100 contractions and dilatations may occur in one hour. When the light acts only on the retina of an eye thus removed, the iris remains motionless; but the latter moves when the light acts upon itself alone.

In living Batrachians, the iris contracts both under the direct action of light, and in consequence of its action upon the retina and the nervous centres.

Of the different rays of light, the most illuminating seem to act most energetically upon the irides of Batrachians and fishes, when removed from the orbit. The different excitability of the iris in different animals in this way, seems due to a difference in the thickness of this membrane, and especially to the anterior layer of pigment cells

and of vessels. Since light does not apparently act on the other muscles and nerves of the organism, there is reason to suppose that the disposition of these tissues in the form of a thin membrane (iris and retina) is a condition essential to its action.

The direct sun-light, the light of the clouds, that of the moon, of a lamp, or a candle, are all capable of producing contraction of the pupil in an eye removed from the orbit.

Light also produces contractions of the iris in fishes, but so slowly, that Sœmmering, Muck, and Haller asserted that the irides of fishes are devoid of contractility.

In the mammals also, and in man, light produces contraction of the pupil after death. During life, however, we may take account only of the action of light on the retina, and hence have no change to make in regard to the motions of the iris, in the doctrines established by Flontana, Fourens, and Herbert Mayo.

B.—The following facts have been established in regard to the effects of a change of *temperature* on the pupil:

1. In all animals experimented upon by Dr. B-Séquard (rabbits, cats, pigeons, &c.) the iris contracts under a considerable and a prompt change of temperature, whether the eye is removed from the orbit during life, or was examined *in situ* a short time before death.

2. The iris of the rabbit remains contractile for more than two days after the death of the animal; sometimes even after the rigor mortis of the limbs has ceased. The iris of the eel has remained contractile more than four days.

3. The duration of the contractility of the iris after death varies much with the temperature of the medium surrounding the eye. It is shorter as the temperature is higher.

4. For a change of temperature to act decidedly on the iris, it should be at least 68° to 77° (Fahr.)—whether it be increased or diminished.

5. If the pupil is excessively contracted, a rapid change, as just specified, causes its dilatation. If dilated, or slightly contracted, the same change of temperature re-contracts it.

6. The contraction and dilatation of the pupil under the influence of heat or cold differs entirely from the motions of the iris in living animals, since they are very slowly produced. The duration of the contraction varies from 2 to 10 minutes; and that of the dilatation from 3 to 15 minutes—seldom less.

7. The effect of a change of temperature is the greater and the prompter, all else being equal, the greater the change is; i. e., an eye

at 104° (Fahr.) will manifest the greater effect the nearer the new temperature approaches to the freezing point.

8. When an eye is alternately exposed to cold and heat, the pupil very rarely dilates after contraction to its former size; and besides, each contraction which follows a dilatation is more pronounced than the preceding. A pupil, after 60 to 100 alternate contractions and dilatations, attains to a state of decided contraction, and the iris then ceases to be contractile.

9. M. Bouchut has confirmed the observations of Haller and R. Whytt, that the pupil contracts in *articulo mortis*, and notably dilates at the moment of death. Dr. B-Séquard adds, that the pupil dilated at death gradually contracts after death, and attains to its maximum of contraction in 2 to 5 days. He thinks this slow spontaneous motion comparable to the rigor mortis in the muscular system generally.

Dr. B-Séquard has also proved that a vascular turgescence of the iris is not *necessary* to a decided contraction of the pupil; though it may exist, and may influence it in many circumstances. For light, heat and cold, as has been seen, as well as galvanism, produce an extreme contraction in eyes removed from their orbits.

XIV.—*A particular action of light and of heat upon the crystalline lens.* It is well known that the crystalline lens is often opaque after death, and that heat renders it transparent. Dr. B-Séquard finds that it may be rendered opaque at will, by exposing it to a bright light when the temperature of the surrounding medium is low (50° to 53.6° Fahr.) If when it has thus become opaque, (of a milky white,) it is placed near the flame of a candle, or other source of heat, or even if it be warmed in the hand, it again becomes transparent. It may thus be rendered alternately opaque and transparent a great number of times—the heat undoing what the light has done at a low temperature. But the latter does not produce opacity of the lens in the dark.

3.—RESEARCHES ON MISCELLANEOUS SUBJECTS.

I.—*Arterial blood is the regenerator of the vital properties of the muscular and the nervous tissues.* The properties of venous blood have been specified under a preceding head (X). The following facts are established in regard to arterial blood:

1. Under the influence of arterial blood, muscles which had become rigid not only recovered their contractility, but also the faculty called *muscular induction* by Matteucci.

2. The muscular fibres of the alimentary canal, the bladder, the uterus, the heart, of the hair bulbs (in man,) of the iris, and of the

blood-vessels—as well as the sensory and motor nerves and the spinal cord, may, under the influence of arterial blood, regain their essential vital properties, (contractility and sensibility,) after having lost them for a time, varying from a quarter of an hour to several hours.

3. The more oxygen the blood contains, the more powerful and rapid is its regenerating influence. The serum of the blood has no such power. The more globules the blood contains, the more marked its regenerating effects; but only when it is charged with oxygen. The last then appears to be the main regenerating element. It has been seen (X) that venous blood (i. e., blood containing little oxygen) has no regenerating, but, from the presence of carbonic acid gas, only an excitant effect on the tissues.

4. The quantity of blood necessary to regenerate the vital property of muscles already rigid, varies in many different circumstances. It has been made to return and remain nearly $4\frac{1}{2}$ hours in $15\frac{5}{8}$ ounces of muscle, by the use of only $7\frac{1}{2}$ drachms of defibrinated blood. But it was necessary to re-inject the blood at least 40 times, and to charge it each time with oxygen.

5. Contractility of the limb of a rabbit separated from the body was maintained during more than 41 hours, by often repeated injections of blood charged with oxygen.

6. Even muscles long since paralyzed by the section of their nerves—motor nerves separated for two days from the spinal cord—and the last separated during several months from the encephalon—recovered their vital properties under the influence of arterial blood, a half-hour or more after having lost them.

II.—*Defibrinated blood should be used in cases of transfusion.* The utility of transfusion of the blood in certain cases has been established by Provost and Dumas, Blundell and Dieffenbach. But patients have died who might have been saved by it, on account of the danger from injecting blood, which might have produced death by its coagulation in their vessels.

Dr. B-S. has shown that fibrin is not necessary for the nutrition of the muscular and the nervous tissues; and thus confirms the conclusion of Bischoff, that defibrinated blood may be used with advantage in transfusion, and thus all danger from coagulation be avoided. This he has also proved by his experiments.

Nor does the beating of the blood to remove the fibrin change the corpuscles, as Dumas and others have asserted. Dr. B-S. has found it efficacious after beating it five hours, in restoring a cat dying of hæmor-

rhage. The objections, therefore, to the use of defibrinated blood in transfusion, are of no weight.

III.—*The influence of temperature in warm-blooded animals, upon their tolerance of asphyxia.* W. F. Edwards had shown that in a medium at a very high temperature, certain new-born animals die, if asphyxiated, much sooner than if the temperature be relatively low. Dr. B-S. finds the temperature of the animal exerts a great influence. For example, a kitten, whose temperature was 98.6° (Fahr.), lived thirteen minutes in a state of asphyxia; another, at 82.4° , lived nineteen minutes; a third at 75.2° , survived thirty-one minutes; and a fourth at 63° , lived fifty-one minutes.

Adult mammals and birds also resist asphyxia much longer when the temperature is low, than when it is elevated. But the adult animal, (in case of the rabbit, at least,) does not live more than half, and sometimes not more than one-third as long as the new-born animal of the same species.

These results demonstrate the danger of applying warmth to persons asphyxiated, (as by drowning,) before the respiratory movements are completely re-established.

IV.—*The essential condition of hibernation.* It has often been asserted that cold is not necessary to hibernation; since it has been erroneously stated that the hedgehog (*tanrec*) of Madagascar hibernates in the summer. This is, however, not the fact; and Dr. B-S. has seen hedgehogs and other animals in a hybernal sleep, at a temperature identical with, and even higher than, the mean winter temperature of the countries inhabited by the *tanrec*. A diminished temperature is, therefore, essential to hibernation.

V.—*The immediate cause of death in certain cases of poisoning.* Chossat, Duméril, (son,) and Demarquay had shown that certain poisons depress the temperature of animals in a notable manner; and Chossat and Prevost and Magendie had proved that the depression of the temperature of mammals below a certain degree inevitably proved fatal.

These facts induced Dr. B-S. to inquire whether the diminished temperature in certain cases of poisoning did not itself alone cause death; and he has found this to be the fact. A dose of a poison sufficient to produce death if the temperature falls without any obstacle, does not kill if it remains normal, or nearly so.

Hence, in cases of poisoning in man, the temperature must be maintained at the normal standard, if possible.

The poisons experimented with were opium, hydrocyanic acid, hy-

oscyamus, digitalis, belladonna, tobacco, euphorbium, camphor, alcohol, and the following acids: oxalic, sulphuric, nitric, hydrochloric, and, finally, also certain oxalates.

VI.—*The mode of action of poisons which produce convulsions.* The following facts have been established by Dr. B-S., with Dr. Bonnefin:

1. The convulsions occurring in cases of poisoning by strychnine, hydrocyanic acid, picrotoxine, nicotine, morphine, cyanuret of mercury, sulphuret of carbon, and oxalic acid, do not result from a direct action of the poison on the muscles, nor the motor nerves.

2. These convulsions are not due to an increased excitability of the nerves of common sensation, either in the skin or in the posterior roots of the spinal nerves.

3. No more are they due to a direct excitation of the spinal cord.

4. The above substances seem to act principally in exciting the reflex (diastaltic) action of the cerebro-spinal centre.

5. The convulsions appear not to occur spontaneously, and to occur generally by reflex action.

VII.—*How is death produced by lightning?* This is a question of easy solution, though no lesions are found to account for the fatal effect. Every excitant of the nervous or muscular force diminishes the amount of these forces in an individual at a given moment, in proportion to the energy of its action. Hence lightning, being a very powerful excitant, exhausts the whole amount of nervous and muscular force in those it strikes. These forces annihilated, life must cease; since no important vital act can be accomplished in their absence.

Lightning kills, then, by exhausting all the dynamic forces of the animal economy. No visible lesions, therefore, occur.

Death by lightning is characterized by the absence of the rigor mortis, and the prompt appearance and rapid progress of the putrefactive process. The law specified on p. 359, (VII.) obtains here, also, in respect to the action of lightning. Its mode of action is shown by the following experiments:

The heart was removed from five mammals (rabbits, &c.) of the same species, and in all respects alike, so far as could be judged. One was left untouched, and the remaining four were submitted to the action of electro-magnetic currents of different intensities. The following were the results on the rigor mortis:

1st animal, not galvanized, rigor mortis occurred in ten hours, and continued eight days.

2d animal, very feebly galvanized, rigor mortis occurred in seven hours, and continued six days.

3d animal, somewhat more galvanized, rigor mortis occurred in two hours, and continued three days.

4th animal, still more strongly galvanized, rigor mortis occurred in one hour, and continued twenty hours.

5th animal, most powerfully galvanized, rigor mortis occurred in seven minutes, and continued fifteen minutes.

Since the rigor mortis continued eighty times as long in the 4th animal as in the 5th, though the current was not more than twice as strong in the latter as in the former, is it not infinitely probable that lightning, which far surpasses in power our electro-magnetic apparatus, would produce a rigor mortis continuing only a few seconds, or even a minute fraction of a second? And by parity of reason, would not the rigor mortis commence immediately after death by lightning?

In the preceding experiments, putrefaction occurred, as always, almost immediately after the cessation of the cadaveric rigidity; in the 1st animal at the end of eight days—in the last, in about twenty minutes. We see, then, why putrefaction so rapidly follows death by lightning.

When the rigor mortis is established in a limb, the passage of even a very strong galvanic current does not at all change the duration of the rigor mortis, nor hasten the putrefaction. It appears, therefore, that galvanism applied to muscles still retaining their irritability, has no other action than to excite them to contraction; and that it is the *præ-mortem* changes, which necessarily accompany all muscular contraction, which prepare the muscles to putrefy rapidly after death.

VIII.—*The cause of fatal Syncope under the influence of Chloroform.* Dr. B-S. concludes that the syncope is produced by a contraction of the vessels of the heart. [The excitant effects of the venous blood are thus withdrawn, as in case of galvanization of the pneumogastric nerves; which has been explained under a preceding head. [See XII.]

IX.—*The temperature of Human Urine.* Braun and De Lisle had estimated the temperature of this secretion too low, and Hales, too high. Dr. B-S. adopted a process preventing the cooling of the urine by the air, and found that in six vigorous men, (sailors,) its temperature varied between 100.94° and 103.19° , the mean being 102.39° . These experiments were made on the ocean, between the 43d and 45th degree of North latitude. More than thirty examinations of his own urine, in the most varied circumstances, almost always gave the same temperature— 102.44° . The extremes were 101.84 and 102.72° .

ERRATA.—Page 354, line 15, for *myself* read *himself*; p. 359, line 18, for “ 54° to 66° ” read “ 50° to 59° .”

Puerperal Fever. An abstract of the Discussion at the Paris Academy of Medicine. Collated from the French Journals for the MONTHLY.
(Continued from page 347.)

M. Beau, in reply to the request of M. Depaul, that he should make known the results of the treatment pursued at the Cochin Hospital, for puerperal fever, that is, by the sulphate of quinine, said substantially as follows:

You know, gentlemen, there are two views in relation to the disease which constitutes the subject of this discussion. Some regard it as an inflammation analogous to peritonitis; others, as an essential fever, a pyrexia, in which the anatomical lesions are only accessory and secondary. M. Depaul adopts the latter, while I include myself among those who accept the former doctrine. Let us see what are the reasons which militate against the one or the other view; but first, let us remark that puerperal fever has been divided into two kinds, by Doublet: 1st, a light, ephemeral fever, continuing only a day or two, the milk fever; 2nd, a malignant or severe fever. The discussion is upon this latter form.

The idea of considering puerperal fever as a pyrexia is very ancient. Bichat, after numerous autopsies, revolutionized the idea of a pyrexia, and caused that of an inflammation to be adopted. Having especial reference to the anatomical lesions, which he most frequently met, he considered puerperal fever to be a peritonitis, and for a long time the affection which we are now discussing was designated only by the name of puerperal peritonitis. The progress of pathological anatomy, however, revealed lesions common to phlebitis and lymphangitis; and puerperal peritonitis not being applicable to these different lesions, the old name of puerperal fever, which embraced all, was resumed.

I think that puerperal fever arises from an inflammation, and that this inflammation itself is under the influence of an inflammatory diathesis. I add, that the action of this diathesis, which is common, and so to say, habitual in the puerperal state, is singularly favored, exalted, by the epidemic constitution; another mysterious influence, which combines its action with the preceding to arouse and develop puerperal inflammations. Diathesis is not a 0 in pathology, it is an x , which is very different. The diatheses are not symptoms in themselves, they are revealed by their manifestations. For instance, the development of tubercles is preceded by the tubercular diathesis, which is not known till tubercles are manifest. The danger, then, does not arise from the diathesis, for when it is present alone, death

never ensues; it is the manifestation of it which produces death. The tubercular diathesis is inoffensive, but its manifestation, tubercle, is mortal.

Of all the manifestations of the puerperal diathesis, peritonitis is the most frequent. Ordinarily, it is present alone; sometimes it is accompanied by lymphangitis, phlebitis, &c.

This peritonitis, which is sometimes uterine, sometimes general, may be accompanied by a considerable tympanitis of the intestines, which alone, constitutes a most serious danger, by interfering with the respiration, and consequently with aëration of the blood, by crowding upon the diaphragm. Often a mortal danger results from polypoid concretions, which form in the heart. These concretions, more frequent than they are thought to be, are formed by the buff of the blood, by the fibrin, and give by themselves, to the disease of which I speak, an inflammatory character. This complication, which is not only frequent, but habitual in peritonitis, explains the anxiety, and the general disturbance, which the intensity of the peritonitis will not explain. There exist great differences in the symptoms, according as the peritonitis is partial or general. The peritoneum, in all its folds, is an immense membrane, the extent of which is certainly more than double that of the skin. It can be understood that, from a more or less complete inflammation of this membrane, differences in severity may result, which give rise to differences in the nature of the disease. It is the same as in bronchitis, according as a single tube or all the ramifications of the air passages are invaded. Differences in quality are mistaken for differences in quantity.

M. Depaul and myself agree, that puerperal fever is preceded by something, and I have just tried to explain what I understand by diathesis. I hope that the great interval which separates diathesis from pyrexia, admitted by my opponent, will be understood without further explanation.

Let us examine if puerperal fever presents the characteristics of inflammation rather than those of pyrexia. Its début is brusque, there is a chill, and pain in the pelvic region; but pneumonia, which is an inflammation *par excellence*, commences in the same way.

In pyrexias there are always some eruptions; this is their peculiar characteristic; for example, the eruptive fevers and typhoid fever which is always accompanied by the lenticular eruption; none exist in puerperal fever.

There are, it is said, some typhoid symptoms in puerperal fever. That is true, but let us not be deceived by this, for typhoid symptoms

appear at the last stage of all inflammations which terminate fatally.

Other characteristics still more convincing, are furnished us by the blood. According to MM. Andral and Gavarret, the fibrin never increases in pyrexias; the contrary is the fact in inflammations. How is it as regards puerperal fever? There are not many observations upon this point. Still, I have found a few researches recorded by M. Hersent in his thesis, in 1845. The author, as he himself says, having preconceived ideas, believed it was a pyrexia, and that consequently he should find proofs of the liquidity of the blood; but he found no evidence of this condition, in his experiments upon this fluid in puerperal fever.

After having stated that during gestation the fibrin was in greater proportion than in the normal state, M. Beau read different passages from M. Hersent's thesis, showing that in puerperal fever the fibrin was sometimes increased in quantity, but never diminished, even when this fever took the typhoid form. From this, it is right to conclude that this affection is an inflammation, and not a pyrexia.

Its contagious character is adduced as an argument against considering puerperal fever as an inflammation. But contagious inflammations are not rare; certain inflammations of the conjunctiva, dysentery, &c., which are evidently phlegmasias, are contagious; and again, in favor of pyrexias, the fact of the general disturbance which produces death in the child may be adduced. Cannot both individuals be subjected to the influence of the inflammatory diathesis?

The partizans of pyrexia find a difficulty to be overcome in the fact that they admit two kinds of peritonitis—an inflammatory peritonitis, which no one doubts, and a febrile peritonitis. But how can they be distinguished? I do not know.

And now as regards the treatment. The following is my method: I first administer ipecac, whatever may be the form of disease. Then I give a gramme (fifteen grains) of sulphate of quinine, informing the patient in regard to the effect it will produce, so that they may not be a source of alarm, and then continue this medicament in 10 to 12 grain doses every eight hours.

The next day there will be less heat of the skin, the pulse will be less frequent, the patient will feel better, and the countenance will be less changed.

It is important to ascertain the degree of tolerance of the patient; as soon as the quinism diminishes, the dose should be increased. The sulphate of quinine should be administered several successive days. Sometimes the patients throw it up; another dose should then be given;

and when the repugnance to it cannot be overcome, it should be administered by enemata.

This method of treatment is rendered difficult by patients being differently affected by it.

As accessory treatment, I put large blisters over the most painful parts of the abdomen.

Can all forms of puerperal peritonitis be cured by this means? Evidently not. Those inflammations of the peritoneum which are limited, those which can be called sub-umbilical, are cured; the supra-umbilical are not cured. The sub-umbilical cases, complicated with fibrinous concretions of the heart, are not cured. If the name of puerperal fever be reserved for the severe forms, I admit that I do not cure them any oftener than do others.

I am requested to give observations, facts, which demonstrate the efficacy of the method of treatment I have prescribed. These can be found in the thesis of one of my former pupils, M. Barbrau, (Paris, 1857,) who zealously followed my researches at the Cochin Hospital.

The treatment of puerperal fever by sulphate of quinine is not new. I do not claim any priority for it. I only observe that I have adopted a method which differs essentially from my predecessors, in that I employ the quinine alone, and in large doses; for I repeat, that I regard puerperal fever as a disease depending upon an inflammatory diathesis, and the treatment to be applied to it is that which is proper for acute articular rheumatism, and all other affections characterized by an increase of fibrin in the blood.

Mr. Piorry commenced his remarks by saying that he should consider the subject in a practical manner, rather than present any sterile theoretical conceptions. After repeating the different phenomena which are observed under the name of puerperal fever, and which have already been stated, he observed that most authors have regarded the whole of these pathological facts as a disease, a morbid unity, and that some referred the phenomena to an epidemic affection, others to a peritonitis, and others again to a phlebitis, or, in short, to that particular characteristic of the disease which seemed to predominate, and which conformed the best to their general doctrines.

To understand puerperal fever properly, and in order to treat it with a judgment rich in practical applications, it is necessary to take into consideration the circumstances which surround parturient women, and the modifications their organisms have undergone.

1. They are almost always placed in an atmosphere which is not renewed, in which is disseminated fetid odors, arising from fluids flowing from the vagina and other parts of the body.

2. As a consequent of parturition, the vessels are usually patulous, owing to the loss of fluids the woman has sustained, which wonderfully favors absorption.

3. The uterus is then contracted upon itself; but its cavity presents a large sac, in which liquid or coagulated blood, mixed with air, is in contact with the uterine sinus, which favors the penetration into the circulation of the various fluids enclosed within the womb.

4. Let us add, that the blood of a recently delivered woman contains few globules, a great deal of serum, and a little iron; that the abdominal and thoracic organs are greatly modified in their structure and consistence by the compression they have been subjected to, and that the peritoneum which was before distended, now leaves in part the surface of the womb, and is in such an organized condition that it is predisposed to alterations of structure.

5. Soon after accouchement a new action takes place, accompanied towards the fiftieth hour by a fever, congestion of the mammary glands, and secretion of milk.

6. The patient is then subjected to various moral impressions, which can have a marked influence over the accomplishment of the functions.

It is in the attentive study of these facts that we find the logical explanation of the puerperal symptoms, and it is not the admission of a morbid unity, called puerperal fever, which upon one side explains the phenomena observed, and upon the other conducts to a useful rational treatment.

In fact, we have nothing to do in the class of symptoms arbitrarily grouped under the title of puerperal fever, with a morbid unity, an essential affection, a disease with a special poison as its cause, of a regular course, always the same for all attacked by it, a disease which demands a specific treatment, prescribed from some illusory theory or in a routine practice. On the contrary, we have to act in the case of a woman who, presenting the peculiarities of organization which attend the condition of gestation and parturition, already suffers from the physiological phenomena of the lacteal secretion, and perhaps of a veritable galactemia; of a woman who, ordinarily in a bad location, is subjected to the action of a virus, or of a poisonous agent, producing a deleterious influence upon the blood by respiration, and upon the liquids contained in the uterus; finally, of a woman who is attacked by some or a greater number of the following pathological (organopathic) conditions: serious inflammation of the uterus, from septic cause; partial or general phlebitis; utero-peritonitis; septico-peritonitis; septæmia; pyæmia; pleuritis; arthritis; ethmyphitis; retention of fecal matters, and of gas in the intestines simulating peritonitis, &c. &c.

Considering the facts in this light, the rational indications are immediately apparent, and evidently refer, not to the disease, *puerperal fever*, but to its component elements.

Let authors who are pleased with theories upon the unity of diseases, tell us what is the empirical remedy which has succeeded in their hands; let them recall all the formulæ, all the special medicines which have been proposed, from opium and mercury to quinine, and prove to us, if they can, that the rare successes obtained have been due to anything else than the action of the organism; let them admit with us:

1. That rest, cataplasms and cleanliness are useful for uteritis.

2. That peritonitis, when there is enough blood in the system, is ameliorated by local bleedings, water fomentations, and mild purgatives.

3. That it is indispensable to clean the uterus (by injections carefully made) of the blood, and the putrid sanies which it contains. For five years I did not lose a single case at the Hospital La Pitié, from puerperal peritonitis, and in all cases of confinement the uterine injections were practised.

4. That there is no remedy for peritonitis of a septic or *galemic* character.

5. That the usefulness of good air and cleanliness is, in relation to preservation and cure in septæmia, of the greatest importance.

6. That for pyæmia or purulent cachexia we can only have recourse to purgatives.

7. That for pyogenic inflammation these same purgatives, however useless they may be, are still the only treatment that can be proposed.

8. That in cases where fecal matters and gases are accumulated in the intestines, simulating peritonitis, purgatives administered by the rectum, and frictions with oil over the abdomen, relieve the pains and symptoms from which the patient suffers, like a charm.

9. That pyæmia, when very marked, excludes the use of bleedings and means proper to evacuate the liquids, and on the contrary requires, if it is possible to give it, nourishing diet.

10. That the crowding up of the viscera, and the cardiac and pulmonary symptoms which it causes, imperiously demands the use of remedies to evacuate the gas and feces.

These indications do not in any way exclude the use—1. Of administering sulphate of quinia when the spleen is voluminous, and any intermittent phenomena are present. 2. Of having recourse to emetics, if liquids become accumulated in the air-passages. 3. Of evacu-

ating the urine if it accumulates in the bladder. 4. Of frequently changing the position of the patient when hypostatic pneumonia is present.

It is my opinion, then, that in the attentive study of the organization and of the pathological conditions, the proper understanding of the etiology, diagnosis, and treatment of the symptoms called *puerperal fever*, is to be acquired. If it is regarded as a morbid unity, we immediately fall into an irrational empiricism which confounds everything, unites under the same denomination the most remote things, and what is worse, causes us to adopt or reject remedies, from the application of facts incompletely investigated either by prejudice or routine.

M. Hervez de Chégoin, recalling the differences of opinion in relation to the nature of puerperal fever, thought all this confusion was owing to the desire of some to refer it to one and the same form, and that consequently they had regarded certain phenomena as inexplicable, which properly were the effects of different causes resulting, however, by being confounded, but the primitive symptoms, the point of departure, and the progress of which were not the same. All this became clear, everything followed the ordinary simplicity of physiological and pathological acts, when, by a distinction founded upon rigorous observation, puerperal fever was regarded as having a double origin, and presenting therefore a double form: 1. The *putrid form*, regarding the putrefaction of the clots retained in the womb, or the putrescence of the tissue of the womb itself as the cause. 2. The *purulent form*, having an inflammation of the womb as a point of departure, and which, succeeding the absorption of the element of pus, is developed, not immediately, like the preceding, but after a certain variable time.

Putrid puerperal fever is recognized by the chill which occurs ordinarily upon the third day; by the small frequent pulse (140 to 150); by the agitation, insomnia, loquacity, slight delirium; by the great and sudden tympanites *without pain* (characteristic sign); and finally, by death, which also usually takes place the third day from the beginning of these symptoms, and the sixth after confinement.

I do not regard the pathological relations which are found at the autopsy, any more than *M. Dubois*, as the causes of the disease, but the effects, and we only differ in the fact that for me this cause is no longer an enigma, but a material one which can be perceived.

In purulent puerperal fever there is no fixed time for its appearance, for it depends upon the inflammation which can be determined by causes

acting immediately or tardily. In this form the bowels, contrary to the condition found in the putrid form, are painful from the beginning; the chill and fever is present in this as well as the other form, but the pulse is less frequent, less feeble; the skin is hotter, but no delirium. It is not until later, when purulent absorption has commenced, that symptoms similar to those observed in the putrid form are also developed. The effects of this purulent intoxication are well known, and the secondary disorders which are found at the autopsy are, as in the other form, the result, and not the cause of the disease.

The distinction into these two forms, putrid and purulent, can explain all, and dictates the rational treatment of the disease, at the same time that it teaches us that preventive medication, prescribed in advance before we know what we have to deal with, cannot always hit it right.

Assuredly in the putrid form all the hygienic conditions of salubrity are of the greatest importance; but it is often necessary to seek in the confinement itself, in the manner with which it is accomplished, the cause of the disease, and the preventive indication. After an easy and too rapid delivery, should not the physician fear that the womb, which is not relieved of the products of conception by sufficient contractions, is in an unfavorable condition to expel what may remain of the placenta, or of the membranes, or of the fluids which flow from the uterine surface, and, on the contrary, in a favorable condition for absorption on account of the state of the uterine veins? Should he not then excite secondarily these contractions, and if he learns by an examination of the placenta that some portions of it remain, is it not indicated that the womb should be relieved of them by injections? I am so firmly convinced of the usefulness of injections, that I believe it possible to prevent putrid infection by them. Can I doubt it when I have seen the first symptoms of this infection cease immediately after a washing out of the internal surface of the womb?

But when putrid fever is once developed, what is the proper treatment for it? Three indications are present: 1. To eliminate the cause by frequent injections, and by the opportune administration of purgatives and sudorifics; 2. To neutralize, or at least attenuate the toxic action of the absorbed matters; 3. To put the whole economy in a condition to resist this serious influence, by properly employing antiseptics and diffusible tonics.

In purulent puerperal fever, at the onset, the antiphlogistic treatment should be employed with all its energy. Purgatives, mercurial frictions constitute the best prophylactic treatment for this form, which the physician should always suspect as soon as he sees an inflamma-

tion of the womb appear after delivery. Later in its course, when infection has taken place, the indications laid down for the putrid form should be adopted.

It will be observed from what I have said, that puerperal fever can be developed under the most favorable hygienic conditions; but the atmospheric causes, which can promptly alter the organized liquids or develop inflammatory symptoms, can produce also both putrid and purulent puerperal fever.

As to contagion, which arises in the midst of a large number of lying-in women, it does not take place from within, outwardly; but from without to within, through the air-passages, which are much more favorable for absorption than the uterine surface. I do not believe that this contagion can be carried by a physician, or any person who has just visited a case of puerperal fever; the quantity of miasm which can be transported in this manner does not seem to me sufficient for this mode of transmission. We know, in fact, that a certain quantity of venom or of putrid matter can be introduced with impunity into the air passages and digestive apparatus of animals.

From this I conclude:

1. That puerperal fever is nothing but a general infection, which consists in an alteration of blood occurring consecutively to delivery.
2. That this infection is of two kinds: putrid or purulent.
3. That its seat is in the womb, and that I can say with truth: "*Morbus totus ab utero procedit.*"

These two forms, different in the commencement, become confounded in their last stages.

The causes of putrid puerperal fever are such as retain in the womb matters which should be expelled after confinement. These causes are often individual. There are also causes which I call hygienic, such as favor the putridity of these matters.

Purulent puerperal fever is caused by whatever can produce inflammation of the womb, either individual or hygienic.

The treatment, very different in the beginning, becomes the same as soon as infection has taken place.

Women who are delivered by themselves, and in the best conditions, can be attacked by putrid or purulent puerperal fever. They have less to fear, however, from infection by the exterior passages than those who are assembled together.

Even when the results of infection are not found at the autopsy, it should not be concluded from this that none exist; they may have disappeared; they have always been found when they have been sought for perseveringly.

The necessity of prohibiting the manufacture of Chemical Matches made with ordinary Phosphorus. By M. CHEVALIER, SENR., and M. ABEL POIRIER.

If there be, at the present time, a danger which threatens society, it is that which arises from the unlicensed sale of chemical matches prepared from ordinary phosphorus. In fact, the common people are perfectly aware of the use which can be made of them in committing the crime of poisoning. The following facts fully demonstrate this: In 1854, a man, tried at the Orleans Assizes, declared that if he had desired he could have poisoned his wife with chemical matches, for everybody knew their power and the difficulty of detecting the poison; but he had preferred to destroy her by dissolving along with beans a salt of copper, which had been detected in the analysis. In a trial held before the Criminal Court of Dordogne, the following extract is taken from the act of accusation against R.: "Some days later, M. J., having met R., asked him, in jest, if he had not yet killed N. No, he replied, but if he does not give me five francs on pay day, to indemnify me for the lost time that the wound which he gave me occasioned, I will poison him." The witness having replied that the pharmacist of——would not give him any poison, R. continued: "I will obtain it readily; I will poison all in the glass-house, because they beat me, make me work too hard, and do not give me anything to eat." He added that he would buy chemical matches for that purpose, from which he would dissolve the phosphorus in a bottle of water, and that if he had not time to escape after this poisoning, he would kill himself with another bottle of water prepared, before hand, in the same way.

These two facts, and they are not of rare occurrence, are positive proof that, among the lower classes, the improper use to which these preparations can be put is perfectly known. Such matches are, then, a source of danger, which it is necessary to remove, because everyone can become a poisoner at will, by procuring, without legal restraint, a poison more dangerous than arsenic.

Poisoning by phosphorus is, in our opinion, attended by the most dangerous consequences. In truth, we are acquainted with suitable antidotes for arsenic, copper, zinc, lead, and the vegetable alkalies, but we have no certain antidote for phosphorus. It is clear to us that phosphorus has supplanted arsenic, whose sale has been restricted, except in certain cases, where those who sell and buy the poison are obliged to fulfil certain conditions and formalities that render such sale of little danger. To prohibit the manufacture of chemical matches

of ordinary phosphorus, would prevent a large number of criminal poisonings, and would prevent many accidents and suicides.

Ordinary phosphorus will poison in small doses. Authors who have written on this subject have established the fact that individuals have died from not more than 15 to 20 centigrammes. It is, moreover, also established, in an incontestable manner, that *red* phosphorus has no action on animals.

In order to justify what we have stated as to the danger of ordinary phosphorus, we present a table of the poisonings which have taken place from 1824 to 1858, and which have come under our notice.

Years.	Accidental poisonings.	ACCIDENTS.			SUICIDES.			CRIMINAL POISONINGS.			TOTAL.
		Preparations of Phos.	Chemical Matches.	Phosphorus Paste.	Preparations of Phos.	Chemical Matches.	Phosphorus Paste.	Preparations of Phos.	Chemical Matches.	Phosphorus Paste.	
1824	1	...	...	...	...	...	1
1826	2	...	...	...	...	...	...	...	...	...	2
1829	1	...	...	...	...	...	1
1841	1	...	1
1842	2	2
1844	1	2	...	...	...	...	1	...	4
1845	...	1	...	...	...	...	1	...	...	...	2
1846	1	...	...	...	...	1
1847	1	...	...	...	...	...	2	3
1848	1	...	...	...	1
1849	1	...	...	...	...	...	...	...	1
1850	1	...	...	...	...	...	1
1851	1	...	1	...	...	...	1	...	...	1	4
1852
1853	2	...	...	...	...	...	...	2	4
1854	1	...	...	1	...	...	3	2	7
1855	3	3	...	5	1	...	3	1	16
1856	6	...	...	7	1	14
1857	3	...	...	4	...	...	5	8	20
1858	1	...	...	1	...	2
	3	1	12	6	3	18	4		21	19	87

From this table we see that from 1824 to January, 1858, we have the following figures representing the suicides, accidents and crimes effected by phosphorus, in various forms, viz.:

Suicides, 25; of which 18 were effected with Chemical Matches.

*Homicides, 40; " 21 " " "

Accidents, 22; " 12 " " "

We remark, that the poisonings and suicides caused by Chemical Matches and Phosphorus Paste are increasing annually; rare from 1824–1850, they become more numerous, especially during the years

*In the 40 cases of criminal poisoning, 21 persons died and 19 recovered.

1855, 1856, 1857; and on the other hand, the poisonings by arsenic are inversely in frequency with those by phosphorus, being most frequent from 1824 to 1850, and decreasing from that date until 1858.

We should not close this account without stating that if the manufacture of chemical matches is very dangerous as regards human life, it also presents very great danger when the destruction of property is concerned. Indeed, we are convinced that, if there was collected a general statement of the causes of fires, we should see that, for some years past, one-fourth at least, if not one-third, of these disasters were occasioned by chemical matches, either laid away carelessly or ignited from peculiar and accidental circumstances.

It becomes important to put a stop to poisonings by phosphorus, whether criminal or suicidal, by interdicting the fabrication of chemical matches out of ordinary phosphorus, and substituting in its stead red phosphorus, either by employing the formulæ in which the latter substance enters into the constitution of the paste, or by making use of Lundstrom's Swedish process, of which the Brothers Coignet are proprietors, consisting in the preparation of a paste that cannot be inflamed except by friction on a small board covered with red phosphorus.

The friction surface can be replaced by slips of paper, which, like postage stamps, are gummed on one side, and covered, by the aid of mucilage, with amorphous phosphorus on the other side.

It is readily seen, with reference to fires, that with matches thus prepared, having no phosphorus in their composition, but requiring friction on a slip covered with phosphorus, that the number of accidents must be diminished. Independent of the dangers arising from poisoning and fires, the employment of red phosphorus, on account of its harmlessness, presents yet another advantage, with reference to public hygiene. It is well known that the unfortunate workmen employed in the manufactories where phosphorus-matches are prepared, are liable to attacks of necrosis of the maxillary bones, and that they succumb after having experienced sufferings of the most intense character.

We could cite a large number of instances of these affections, which have been the subject of interesting works by Heyfelder, Roussel, Strolh, Boys de Loury, Bricheteau, Chevallier, Senr., Perry-Sedillot, Maisonneuve, and Lailier-Trélat. These savants have successively determined that the effects of this disease are so much the more terrible, as they are difficult to cure. According to their accounts, of sixty subjects attacked more than half succumbed. This number is truly not exaggerated, for both in Paris and in the country, there are many workmen who make chemical matches in the same place where their

family sleep, eat—in a word, live. How many accidents, how many diseases, how many mysterious poisonings result from this state of affairs, which would disappear by the employment of red phosphorus!

From the table we have given, it may be seen that phosphorus paste is a dangerous substance, which the criminal invokes to his aid for the accomplishment of his designs, and is so much the more convenient to him, since he can, without legal superintendence, procure this compound. It is, then, to be desired that the government, classifying phosphorus paste among poisonous substances, should proscribe its free sale, and force dealers to employ all the formalities which are exacted in the sale of arsenic; that is, that the sale should only be made to known persons, supplied with a certificate from the Mayor, or a Commissioner of Police of the place, and that the name of the purchaser should be placed in a register, in which the record of poisonous substances sold is preserved. As an additional precaution, the phosphorus paste might be mixed with soluble indigo, which, by the blue color it would communicate to the draught, would be an important sign in most cases to warn the victim of the presence of the poison.

If the opinions here stated were submitted to the consideration of the Academy of Sciences, and that learned Society should pronounce an opinion on this subject, a salutary interdiction would doubtless be the result, and the dangers which are unceasingly occurring would disappear. The evil increases with each day, and there is not a session of the Criminal Court in which phosphorus does not figure as the cause of criminal trials. It is probable, also, that all the cases are not known, and that a great number of crimes committed by this poison go unpunished. We believe that that which has prevented the substitution of red for ordinary phosphorus at the present time, is the slight difference in price; but this difference is so small that it cannot be placed alongside of the danger which results from the employment of ordinary phosphorus; and we steadfastly hope that this slight increase of price will not prevent the consumer from profiting by the advantages which red phosphorus presents as regards hygiene and public security.

L. H. S.

Animal Charcoal as an antidote for Cantharides. By M. THOUERY.

It is generally known that charcoal possesses properties which are most interesting; that it removes most of the metallic salts from wa-

ter; combines with oil to such an extent that it cannot be separated by ether, and fixes certain of the vegetable principles. M. Thouery, in 1851 and 1852, made a series of experiments, from which he concluded that animal charcoal possesses real efficacy in combatting poisoning by cantharides. These experiments were 54 in number, and were performed on dogs. Lately M. Thouery has published the details of an experiment made on men.

During the night of 12th-13th of December, 1856, Antoine B. experienced very acute suffering, after having taken an infusion of centaurea from a vessel which contained powdered cantharides. Being called to see him, M. Thouery recognized it immediately as a case of poisoning by an irritant corrosive poison, but none of the liquid remaining for examination, he could not determine the nature of the poison ingested. He confined himself to the administration of general remedies, uniting, however, calcined magnesia and animal charcoal, and giving them in large doses. The condition of the patient did not seem to improve at first, but, after two days of intolerable suffering, relief was obtained and health was restored.

Thouery afterwards found that the poisoning had been produced by cantharides. He does not doubt, then, that animal charcoal largely contributed to the cure; and he regards this observation as confirmative, in a certain measure, of the results of his previous experiments. The only objection which we can adduce against this theory of Thouery is, that it does not necessarily follow from the fact reported.*

L. H. S.

PROCEEDINGS OF SOCIETIES.

American Medical Association.

The Eleventh Annual Meeting of this Association was held at the Smithsonian Institution, Washington, commencing Tuesday, May 4, continuing till Thursday evening following.

First Day.—Tuesday. The Association was called to order at 11

* We have translated this notice from the French, not because we consider the claims of charcoal as an antidote for cantharides to be established as a certainty, but with the view of calling attention to it, and obtaining from our own countrymen some additional facts bearing upon the subject of cantharides as a poison.

o'clock, when the chair was taken by the President, *Dr. Paul F. Eve*, of Nashville, Tenn. *Drs. R. J. Breckenridge*, of Ky., *D. M. Reese*, of N. Y., and *Henry F. Campbell*, of Ga., Vice Presidents, took their places upon the platform. The Secretaries, *Drs. R. C. Foster* and *A. J. Semmes*, were also present.

At the invitation of the president, *Rev. Byron Sunderland, D.D.*, invoked the blessing of Almighty God upon the Convention.

The Report of the Committee of Arrangements being called for, *Dr. Harvey Lindsley*, of Washington, Chairman of that Committee, then delivered an address of cordial welcome to the members of the Association, in behalf of the medical profession of the District of Columbia.

The roll of delegates already registered was then read. The following list gives the states represented, and the number of each delegation: Maine 2, New Hampshire 8, Connecticut 18, Vermont 1, Massachusetts 40, Rhode Island 5, New York 73, New Jersey 25, Pennsylvania 66, Delaware 4, Maryland 24, District of Columbia 25, Virginia 8, North Carolina 8, South Carolina 10, Georgia 12, Alabama 1, Kentucky 9, Tennessee 7, Indiana 6, Illinois 12, Michigan 3, Iowa 3, Missouri 4, Ohio 14, California 1, American Medical Society of Paris 1, U. S. Navy 2. Other members were announced at different times during the day, and when the association adjourned there were *four hundred and six* names registered. (This number was greatly increased the next day by the arrival of other delegates, making this meeting of the association one of the largest ever held.)

Dr. Lindsley, chairman of the committee of arrangements, reported that it had been decided to hold but one business session each day, from nine A.M. until three P. M. He also announced that the President of the United States would be happy to receive, with those members of the association who might call at the Executive Mansion, at eight o'clock in the evening, such ladies as may accompany them.

On motion, the association confirmed the appointment of *Dr. J. M. Snyder* to fill a vacancy in the committee of arrangements.

On motion, it was decided that a nominating committee of one from each State represented should be raised, the delegation of each State selecting its representative therein. A brief discussion upon the propriety of permitting the army and navy delegations to appoint separate members of this committee, was decided by the president in favor of their having the privilege, and the decision was sustained by the association.

There was then a recess of fifteen minutes, during which the different

delegations assembled in various parts of the lecture-room to choose their representatives in the committee. After the meeting was again called to order, the secretary read the list as follows:

Committee on Nominations.—Job Holmes, Maine; George H. Hubbard, New Hampshire; P. Pineo, Vermont; Ebenezer Alden, Massachusetts; Ashbel Woodward, Connecticut; J. Mauran, Rhode Island; H. D. Bulkley, New York; J. P. Colman, New Jersey; Isaac Hays, Pennsylvania; H. F. Askew, Delaware; S. P. Smith, Maryland; Noble Young, District of Columbia; A. S. Payne, Virginia; W. H. McKee, North Carolina; Wm. T. Wragg, South Carolina; Joseph P. Logan, Georgia; J. T. Hargraves, Alabama; R. J. Breckenridge, Kentucky; J. Berrian Lindsley, Tennessee; Wm. M. McPheeters, Missouri; George Mendenhall, Ohio; Calvin West, Indiana; A. H. Luce, Illinois; Zina Pitcher, Michigan; Thomas O. Edwards, Iowa; O. Harvey, California; and George Clymer, United States Navy.

On motion, Drs. Bohrer, of D. C., Flint, of New York, and Hargraves, of Alabama, were appointed by the president a committee on special essays.

Dr. David M. Reese, of New York, presented and read a written apology for having recommended for a position in Blockley Hospital, Philadelphia, Dr. McClintock, who had been expelled from the association for a violation of the code of ethics, &c., as adopted by the Association, which was as follows:

To the Officers and Members of the American Medical Association:

The undersigned, one of the Vice Presidents of the American Medical Association, having, during the interval since our last annual meeting, certified to the professional fitness for the charge of Blockley Hospital, at Philadelphia, of an individual who had been expelled from this body for a violation of our code of ethics, after consulting with the other officers, and yielding to the advice of other personal friends, desires to say to the Association now assembled:

1st. That, in giving said certificate, he was prompted solely by motives of sympathy and humanity to a fallen brother, who had been a personal friend prior to his offence; and that he did not realize, acting under the impulse of the moment, that his individual act could be construed by the profession as indicating hostility to his brethren.

2d. That while his own mind is clear that his certificate contained only the truth, and that, under his peculiar relations to the party concerned, he could not withhold his certificate, of medical qualification, consistent with conscience and duty, yet he is ready to concede that he had no abstract right to relieve the party from the censure of the association until this body had restored him to his fellowship.

3d. That, so far from intending any disrespect to the association, or

to its act of discipline, the undersigned had publicly sustained and defended both. He therefore disclaims the inference from his certificate, that he intended to recommend to a high professional office a man whom the association had excluded, and thereby nullify the action of this body.

And, finally, with these statements and disclaimers, the undersigned, while retaining his own opinion of the rectitude of his motives, and of his duty, under the peculiar circumstances of the case, is nevertheless prepared to defer to the judgment of those whom he knows to be his friends, that he erred in doing what he had no right to do, in view of his official position in this association, and is hence called upon to offer this explanation and apology to his brethren.

(Signed,)

DAVID M. REESE.

On motion of Dr. Condie, of Philadelphia, the apology was accepted, and ordered to be entered upon the minutes.

Dr. Bryan, of Philadelphia, who had also recommended Dr. McClinck, made a verbal adoption of Dr. Reese's apology, the reception of which was warmly debated. Dr. C. C. Cox, of Maryland, opposed, and Dr. Condie advocated the reception. Dr. A. B. Palmer, of Michigan, moved the previous question on a motion to refer the subject to a committee, which was lost. The apology of Dr. Bryan was then accepted.

The President, *Dr. Paul F. Eve*, then delivered his annual address.

Congratulating the Society upon the favorable circumstances under which it met; in a hall dedicated by a generous foreigner to the promotion of science; in the presence of that towering monument designed to commemorate the worth of him ever enshrined in the hearts of his countrymen; surrounded by the glorious recollections constantly associated with this government; and before the great men and assembled wisdom of the nation; it becomes us, he said, to discharge the important duties which have called us together, with honor to ourselves and benefit to our profession.

The rise, progress, and present condition of this association he reviewed in a few words. The purposes of the association were set forth, the manner adopted to accomplish the desired ends were stated, and the results of the ten yearly meetings were summed up. In doing this, the president recapitulated the subjects of the various works which had appeared in its published Transactions. Referring to these as an index of the varied contributions of the profession to the progress of medical science, he considered that they were a sufficient answer to the taunting questions asked in 1820, "What does the world yet owe to American physicians and surgeons?"* In 1854, the editors of the *British Association Medical Journal*, in speaking of these Transactions, replied most honorably to the sneering demand of their countrymen, giving

* Sidney Smith, in *Edinburgh Review*.

great praise to the scientific and practical manner with which the various reports of committees were performed. Upon such disinterested evidence, such full, free, and candid confessions, and from such a source, may rest the claims of the American Medical Association for proof of the benefits it has conferred on medicine. A most active and powerful agent in disseminating useful medical knowledge on this continent, it is highly probable that no similar institution has ever been more successful in carrying out its chief object—the promotion of science—than the one now assembled in this hall.

It has done something, perhaps all it could under the circumstances, to elevate the standard of medical education. An influential motive calling forth this organization, was the proposed attempt to correct the defects in the plan of instruction and conferring the degree then generally adopted in our medical colleges; and one of the first resolutions passed, even when the profession had assembled in convention, was the creation of a committee to report at an early day on these exciting subjects. Improvement in the system of teaching medicine, and a change in the power granting the diploma, if not reformation in the schools, have ever since agitated the profession and consumed a considerable portion of the time of our sessions. The only power to control the economy of the colleges which this body possesses, is exclusively moral, advisory, or recommendatory, and not legislative or legal; and while it may be true that no set of resolutions presented by the several committees have been fully carried into effect, still it cannot be denied that important changes calculated to advance medical education have nevertheless been made. At least, seven professors now compose the faculty in all our schools, the one or two exceptions to this being in those in which the science is taught nine consecutive months. Not less than a period of four full months' instruction now constitutes a course of lectures, and even this is exceeded in most of the institutions. But one annual course is now delivered with scarce an exception, and an interval is thus allowed for reading or private instruction. The association has clearly defined what shall be taught. It has inquired into the practical operations of all the colleges in the land; scrutinized the general condition of medical teaching in every state; compared it with that of the most enlightened nations; called attention to preliminary education, and declared what it ought to be; advised higher requisitions and a more rigid examination for obtaining the degree; and has, by its free discussions and oft-reiterated expressions in regard to the business of teaching and regulating the schools, undoubtedly prevented greater abuses. It has never ceased to urge at every meeting the pressing necessity for a more thorough preparation and greater attainments in candidates for the honors of the profession.

This subject, gentlemen, is one upon which you will be called to take action. A committee, chosen at Nashville, is to report here on medical education. It is composed of gentlemen from different sections, who, while familiar with the systems of teaching medicine in our country, are yet disconnected from all the colleges. It would seem to be a desirable object to settle at this meeting the future relation of

the schools to this association. Our sessions then might become less educational in character, and hereafter more scientific. And at the present stage of our proceedings, after all that has been said and done on this subject, the time has surely arrived for a decision. I cannot believe the colleges have any interested motives before this body; they of all others should be the last to oppose a more thorough cultivation of medicine, and ought by such a course to become unworthy of their trust, and unwelcome members of a great national congress of physicians, whose grand design is to promote medical science. We have now reached a period in our history when this voluntary association is to determine what medical organizations, be they state, county or city societies, hospitals, boards or schools, are entitled to be represented in its meetings. It alone can, of course, prescribe the requisitions for its own delegates. If created to improve and advance medical education, (and this is in accordance with its own expressed declarations,) then it is quite certain the schools must be controlled. It has but to speak on this point, and it will be obeyed; for it is now too late for any physician to oppose, or any medical college to set at defiance, the moral power of this body.

As to the first object of an ethical nature over which the association designed to exert its influence, that of enlightening and directing public opinion in respect to the duties, responsibilities, and requirements of medical men, we are free to confess little or nothing has been done. Nor is there much probability that any great change will soon, if ever, be effected. The work itself, in the very nature of things, is utopian. How is it possible to enlighten or direct the public mind on the economy of a science which it practically denies to exist? We ought to recollect that the time has not long passed since grave professors in our colleges signed certificates recommending nostrums; or what was done even last year in London, at Middlesex Hospital, by its regular surgical staff? these reminiscences, however unpleasant, may serve somewhat to moderate our indignation against those who would insult the profession, or who entertain a very low estimate of the scientific acquirements of physicians, even at the present day. The profession must first fully comprehend its duties and responsibilities, and the proper and special qualifications for the practice of medicine, before any attempt can succeed to get the public to appreciate what these are, or acknowledge the ethical impropriety of employing secret remedies. If we make no distinction between the regular and irregular practitioner, between the physician and the proprietor of a nostrum, we are alone censurable that two such opposite characters are so generally confounded by the community. Until we are more honest, more united, truer to ourselves and our calling, and cultivate a proper *esprit du corps*, in vain is it to expect a change in public opinion regarding medical science. To prevent disease or relieve the sick is a most benevolent and honorable vocation, and when one conceals for selfish ends a valuable medicine, he ceases to be honest and is void of philanthropy; for, by attempting to place a moneyed valuation upon pain and life, he becomes a trader in human physical sufferings; he estimates in dollars and cents the groans and tears of his fellow creatures.

He may profess what he pleases, but his piety is not of the Bible, and has not a jot or tittle of Christianity about it, for that teaches us to love our neighbors as ourselves. Eschewing politics, and seeking no aid from state or church, we should become a law unto ourselves, or rather act above all law save the divine, since it is quite certain we alone must protect the honor of the medical profession. And thank God, standing this day, the proudest of my life, before this goodly assembly, and at the capital of our common country, I can announce that here, to the American Medical Association, it may with safety be forever confided. By its recent acts, proclaimed throughout the length and breadth of this wide domain, this body has denounced all fellowship with irregular practices, and erected a barrier impassable to honor and respectability.

Having learned wisdom from a more careful examination of the statistics and results of deformities after fractures, the question occurs if we have not ourselves unwittingly made patients expect too much from remedial agents. Disease in itself is a destructive process, which we can only prevent or relieve; and as, of course, we cannot create or restore, should we not, therefore, be more chary of the little word "cure?" The monument erected to Ambrose Paré, the father of surgery, bears the modest inscription, in reference to the wounds he treated, "*Je les pansay et Dieu les guarit.*"* Empirics may boast that they cure, and doctors of divinity may sustain them, but the physician knows that it is God who healeth all our diseases.

On that branch of ethics which relates to ourselves—that of encouraging emulation and concert of action among physicians, and fostering friendly intercourse in the profession—the association has been eminently successful. It has far exceeded the most sanguine expectations in overcoming all opposition; in creating an admirable code, now adopted everywhere; in organizing State, County, and City Societies; in bringing together physicians from the remotest parts of our immense territory; in awaking the whole profession to its true interests; and in blending us into a common harmonious fraternity. Without law or authority, but by moral suasion have we been united as one man, and possess this day the power to be felt over this entire continent. There never has been a more propitious period for medicine in America; never greater evidence of vitality and extended usefulness in our ancient and benevolent calling; never better feeling or more confidence of success than now by our united effort to do good in the great cause of suffering humanity.

We have seen, gentlemen, how much this association has achieved in its infancy to elevate honorable medicine. A wide field for scientific investigation is before us; much territory still remains to be redeemed; the wilderness is yet to blossom as the rose, and the leaves to be gathered for the healing of nations. The hygienic condition of the nation, of such immense interest to our people—that first, all-important question, ever before the profession—the prevention of disease—is to be improved. We are to search after truth, and when found it is to be

* Ancient French.

generously applied for the good of mankind. The work is a self-sacrificing and benevolent one, but it is grand and sublime, even God-like; for it has to do with pain and disease, life and death; and we rejoice to know that, whenever or wherever called upon, the members of our profession and of this association have never failed in any duty, and have been faithful to the end. Yea, many of them have stood alone between the living and the dead, and cheerfully laid down their lives to stay the pestilence and destroyer.

The very waters at our feet as they sweep onwards to the ocean, pass in sight of a city where three years ago no less than four-fifths of our profession in that community, swelled, too, as their ranks had been by volunteers from this body, fell manfully contending with disease and death; and on a late occasion, when one of our steam-packets, having been injured by a collision, went down in an instant, carrying every soul on board into the depths of the ocean, among the passengers was a member of this association. To the inquiry, Where was he during the heart-rending scenes of a sinking ship, freighted with human lives? promptly came the affecting and sublime eulogy from one who knew him well, that so long as a woman or child remained unprovided for he* never left the ill-fated Arctic. How near akin was his gallant spirit to that of him who, during a subsequent and similar occurrence, after seeing every woman and child committed to his care safely rescued from his foundering bark, after sending the last parting message to his family, and discharging every duty without one lingering ray of hope, calmly assumed his commanding position on the deck of his vessel, and as she glided from under him into the yawning billows, instinctively uncovered to meet his fate and his God. While the wild waves are sighing a requiem over the unseen burying places of these illustrious dead, the benedictions of a grateful people are continually ascending over the forty graves of the martyred heroes of Norfolk. These were our companions, who died in the noble service of that calling, to promote the best interests of which has assembled us together.

Gentlemen of the American Medical Association, we have convened for important purposes; great events are before us; the interests of humanity are here; the hopes of the profession are in this meeting; the eyes of the medical world are upon us. May we then so act in view of surrounding circumstances, that "the skill of the physician shall lift up his head, and in the sight of great men he shall be in admiration."

On motion, the thanks of the Association were voted to the President for his able and instructive address, a copy of which was solicited for publication.

Dr. Grafton Tyler, of Georgetown, D. C., chairman of the committee on prize essays, reported that the essays received were three in number, each of which had been examined with great care—considering, first, the intrinsic merits of each essay, and then their merits in relation to each other. The first prize was awarded to "an essay on the clinical

* Professor Carter P. Johnson, of Richmond, Virginia.

study of the heart sounds, in health and disease," bearing the motto, "*Clinica clinice demonstrandum.*" The second prize was awarded to "an essay on vision and some of the anomalies as rendered by the ophthalmoscope," bearing the motto, "*Dux hominum medicus est.*"

Dr. Tyler then proceeded to open the sealed envelopes bearing the above-named mottoes, and containing the names of the writers of the essays. The first was written by *Dr. Austin Flint*, of Buffalo, New York, and the second by *Dr. Montrose A. Pallen*, of St. Louis, Missouri. This is the second time *Dr. Flint* has won this distinguished honor, and the third time that it has been awarded to Buffalo since the association organized, eleven years ago.

On motion, the report of the committee was accepted and adopted. Doctors *Flint* and *Pallen* were then invited to give *resumés* of their essays, which they did.

Dr. Lindsley, from the committee of arrangements, then presented an invitation from *Dr. Nichols* to visit the Insane Asylum, and another from *Rev. Mr. McGuire* to visit Georgetown College.

On motion of *Dr. Hamilton*, of New York, these invitations were accepted, and the thanks of the Association were returned therefor.

On motion of *Dr. Lindsley*, the Hon. Doctors *Fitch*, of Indiana, *Chaffee*, of Massachusetts, *Clawson* and *Robbins*, of New Jersey, and *Shaw*, of North Carolina, members of Congress, and *Dr. Peter Parker*, ex-commissioner to China, were elected "members by invitation," and requested to participate in the proceedings of the association.

On motion, Assistant Surgeon *Frederick A. Rose*, of the British navy, who so nobly volunteered his services on board the United States ship *Susquehanna*, at Port Royal, and who came in her to New York, devoting himself to the sick crew, was unanimously elected a "member by invitation," and invited to take a seat upon the platform. [Applause.] It was announced that *Dr. Rose* had left the city.

Dr. Francis G. Smith, of Philadelphia, chairman of the committee on publication, made his report, showing the expense of publishing the annual volume.

Dr. Caspar Wister, of Philadelphia, presented his annual report of receipts and expenditures, showing a balance on hand of \$806. Accompanying the Treasurer's report was a resolution providing that the back volumes on hand, when over two years old, shall be sold at two dollars a volume, and that volumes V, VII, VIII, and IX, of which there are a surplus, be sold at \$5 a set to any member.

The special committee on medical education, of which *Dr. G. W. Morris*, of Philadelphia, is chairman, were called upon to report.

There was no response; and, on motion, the subject was referred to the committee on nominations.

Dr. A. B. Palmer, chairman of the committee on medical literature, asked leave to defer his report until Wednesday, at 10 o'clock, which was granted.

A report was made by the committee on nominations, which was accepted, and the association then elected the following

OFFICERS:

President, Dr. Harvey Lindsley, of Washington City.

Vice-Presidents, Drs. W. L. Sutton, of Kentucky; Thomas O. Edwards, of Iowa; Josiah Crosby, of New Hampshire, and W. C. Warren, of North Carolina.

Secretary, Dr. A. J. Semmes, of Washington City.

Treasurer, Caspar Wister, of Philadelphia.

On motion, Drs. Flint, of New York, Gross, of Pennsylvania, and Gibbes, of South Carolina, were appointed a committee to conduct the President elect to the chair.

Dr. Lindsley having been introduced to the association by the retiring President, Dr. Eve, made a few pertinent remarks, acknowledging the honor as the highest he had ever been called upon to receive, and the highest that any medical man in America can receive. Unaccustomed to preside over so large a body, and having had but little practice in presiding over smaller assemblages, he must throw himself upon the forbearance of the association, and look to the members for support in the discharge of his official duties.

On motion, the thanks of the association were voted to the retiring officers for the able and impartial manner in which they have discharged the duties of their respective offices.

On motion, the ex-presidents of the association present were invited to take seats on the platform.

The committee on medical topography and epidemics was called by states. A letter from a member from Maine stated that he would report next year. There was no response from New Hampshire, Vermont, Rhode Island, Connecticut, or Massachusetts. Dr. Smith, of New Jersey, read an able report on New Jersey, and the association then adjourned 'till Wednesday morning, nine o'clock.

Second Day.—The association was called to order by the President, Dr. Harvey Lindsley; and Dr. A. J. Semmes, one of the Secretaries, read the minutes of the first day's proceedings; which were adopted.

On motion of Dr. Watson, of New York, Dr. Delafield, of New York, one of the first officers of the association, was invited to take a seat on the platform.

On motion of *Dr. Atkinson*, of Virginia, an amendment to the constitution was received, providing that no person shall be recognized as a member or admitted as a delegate at meetings of the association who has been expelled from any state or local medical association.

Dr. Atkinson supported the adoption of this amendment, contending that the admission of any gentleman who has been rebuked by any state or local association, and is under its ban, is a rebuke to that association. He urged the acceptance of the amendment, and trusted that until the constitution be so amended it shall be the rule of action.

Dr. Bond, of Maryland, asked to have the qualifications requisite for a seat read. He desired information as to the ethical qualifications for membership.

Dr. Watson, of New York, stated that, as by the constitution it was necessary to have amendments lie over one year, this was not a question for present debate.

The President decided that debate was not in order, and the amendment was accordingly laid on the table for consideration at the next annual meeting.

Dr. Boyle, chairman of the committee of arrangements, proposed the names of Doctors Huff and Knight, who were elected "members by invitation."

Dr. A. B. Palmer, of Michigan, chairman of the committee on Medical Literature, then made his report. After noticing in detail the periodical literature of the country, the spirit manifested in the editorial department of our medical journals is characterized as being (with a few exceptions) liberal, honorable, courteous, and just; and the feelings of fraternity are generally cordial and warm. Differences of opinion must be expected occasionally to exist, and different interests will sometimes come in collision; and, while this is the case, the imperfections of our common nature will be likely to produce some unpleasant results. But the bond of union produced by an interest in a common cause, and that cause so noble as the advancement of a great and benevolent profession, should certainly, as it usually does, smooth down asperities, and preserve that courtesy and kindness which ever should exist between gentlemen and brethren. From the contentions existing between the different portions of our common country, and which have so deeply affected the political, the religious, and the literary periodicals, the medical journals, with scarcely an exception, have kept aloof; and it is devoutly to be hoped that the influence of this portion of the press, combined with the harmonizing power of this association, may ever be exerted for the promotion of union both of hearts and states.

The American medical literature of the past year was then reviewed, and said to have been of a creditable character, although it could not be denied that the fruits of the profession are more practical than scientific. The new American Pharmaceutical Association was noticed

and complimented. The works auxiliary to medical science, issued by the federal government, were alluded to, and the example of the army and navy surgeons in taking meteorological and other observations commended to the brethren in civil life. The theses on the Parish-will case were noticed as exhibiting the pre-eminence of American over British physicians. Prof. Agassiz and the support of his labors by the American public came in for a share of praise, and several improvements in medical instruments were mentioned.

In closing his report, *Dr. Palmer* presented the following *resumé* of the leading positions taken by the committee: The periodical literature of the United States is regarded as possessing great abundance, variety, richness, and general excellence; and, though still possessing defects, is constantly improving. Many of the contributions are of great weight and value, indicating an enterprising and industrious profession. Serious defects are regarded as existing in the review department, arising mainly from the fact that the income of the journals will not justify pecuniary disbursements for literary labor, and editors necessarily engaged in other pursuits cannot command the time, if all possessed the ability, to do the work thoroughly and well.

A few well-supported journals in place of the many, but ill sustained, might tend to correct this evil; but the multiplicity of local journals is considered as peculiarly beneficial, by collecting from a greater variety of sources a larger number of facts, and developing the powers of a larger number of writers.

The interests of this part of our literature demand a prompt and liberal pecuniary support.

The number of original American medical works is increasing, and their character is improving, and, in some respects, particularly in practical utility, they will not suffer in comparison with those of Europe; yet serious imperfections exist, and great improvements are demanded. Great and permanent improvements in medical, as in general literature, must be gradual, depending more upon the advancement of education, of taste, and intelligence than upon any specific measures which may be adopted. Still, various particular measures, such as the permanent writing of medical theses during professional pupilage, and keeping systematic records of cases when in practice, would do very much in hastening an improvement. But for the greater perfection of our literature, we must wait the further development of our country, and for those changes of time and circumstances which shall produce a larger number of devoted savans and scholars, placing them in situations where a variety of absorbing pursuits shall not prevent the concentration of great talents upon a comparatively limited range of subjects.

On the subject of the reprint of foreign works, it is held that, while the free circulation of the best class of these works among us increases the knowledge and improves the taste of the masses of the profession, it does not interfere with the production of the higher order of original works; and that the moral obligation of our government to join with Great Britain in the enactment of an international copy-right law is by no means clearly established.

In conclusion, the committee would say, that if, as sentinels placed upon the walls of our Medical Zion, they are asked in relation to its literature, "*What of the night?*" the response must be, "*The morning cometh!*" The darkness which has hung over that literature is breaking away. There is at least dawning in the east, and though the chariot of day may roll on but slowly, the full effulgence will come at last.

On motion, the report was accepted and ordered to be published.

On motion, Dr. Bozeman, of Alabama, was elected a "member by invitation."

Dr. James R. Wood, chairman of a special committee on medical education, made a lengthy report, discussing—1st, primary medical schools; 2d, the number of professorships in medical colleges; 3d, the length and number of terms during the year; 4th, the requisite qualifications for graduation; 5th, such other subjects of a general character as to give uniformity to our medical system. Having reviewed these propositions at length, the committee have arrived at the following conclusions:

First. Primary medical schools should be encouraged; but, as office instruction will continue to be sought by students, practitioners should either give them necessary advantages of demonstrations, illustrations, and recitations, or if not prepared to do so, they should refer them to such primary schools or medical men as will give them proper instruction.

Second. The number of professorships should not be less than seven, viz: a Professor of Anatomy and Microscopy, Physiology and Pathology, Chemistry, Surgery, Practical Medicine, Obstetrics, and Materia Medica.

Third. There should be but one term annually, which should commence about the 1st of October and close with the March following, thus lengthening the term to six months. The commencement of the term, in October, should be uniform in all the colleges throughout the country. During the session there should never be more than four lectures given daily.

Fourth. The qualifications for graduation, in addition to those now required by the schools, should be a liberal primary education, and attendance upon a course of clinical instruction in a regularly-organized hospital.

In order to give our medical colleges an opportunity to consider the recommendations here advanced, and that this body may have the advantage of their wisdom and their mature views, before any definite action is taken upon them, your committee submit to the association the following resolutions:

Resolved, That the several medical colleges of the United States be requested to send delegates to a convention to be held at _____ on the _____ day of _____ for the purpose of devising a uniform system of medical education.

Resolved, That the present report of the special committee on medical education be referred to such convention for its consideration.

Resolved, That said convention of delegates from the several colleges of the United States be requested to submit to the meeting of this association, in May, 1859, the result of their deliberations.

On motion, the report was accepted and referred to the committee on publication, the accompanying resolutions being laid on the table.

The committee on nominations reported Louisville, Ky., as the place of meeting in 1859, and nominated Dr. S. S. Bemis, of that city, as second secretary. They also nominated the following standing committees:

Committee on Publication—Dr. Gurney Smith, Pa., chairman; Drs. Caspar Wister, Pa.; A. J. Semmes, D. C.; S. M. Bemis, Ky.; S. L. Hollingsworth, Pa.; S. Lewis, Pa.; H. F. Askew, Del.

Committee on Medical Literature—Dr. John Watson, N. Y., chairman; Drs. L. A. Smith, N. J.; C. G. Comegys, Ohio; R. W. Gibbs, S. C.; W. M. McPheeters, Mo.

Committee on Prize Essays—Dr. J. B. Flint, N. Y., chairman; Drs. M. Goldsmith, N. J.; H. Miller, Ky.; Calvin West, Ind.

Committee on Medical Education—Dr. G. W. Norris, Pa., chairman; Drs. A. H. Luce, Ill.; E. R. Henderson, S. C.; G. R. Grant, Tenn.; T. S. Powell, Ga.

Committee of Arrangements.—Dr. R. J. Breckenridge, Ky., chairman; Drs. G. W. Ronald, B. M. Wible, D. W. Goodall, D. D. Thompson, N. B. Marshall, G. W. Burglass, R. C. Hewett, and A. B. Cook, all of Kentucky.

The report was accepted, the nominations were confirmed, and the committee received permission to sit again.

On motion of *Dr. Hamilton*, of Buffalo, the resolutions attached to the report of the committee on medical education were taken from the table.

Dr. Watson moved the appointment of a committee to consider the resolutions and report to-morrow morning.

Dr. Bond thought that the subject had already been sufficiently discussed. It had been brought up year after year, occupying much of the time of the association, and he trusted that it would receive immediate consideration.

Dr. Davis, of Illinois, wished to have the subject made a special order for some time prior to the adjournment of the convention.

Dr. Rogers, of New York, wished to have the report printed, that all might have an opportunity of examining it and the propositions which it embodies.

Dr. Wood defended his report as a conservative report, just alike to the profession and to the laymen. He did not believe that any

good could arise from a further discussion of the subject. None had arisen in years past—none could arise now. It was a bill of conciliation and of adjustment. Laymen of the profession merited censure for sending men to college not qualified for the profession, and colleges merited censure for sending men out not qualified to practise the healing art. He approved of the motion of Dr. Watson, that the report be submitted to a committee of delegates from colleges.

A debate on a call for the previous question on Dr. Watson's resolution then ensued, in which several gentlemen joined, each one apparently having a different idea of "parliamentary law," and neither of them displaying a very correct knowledge of the subject. It was remarked by an old member of the association that "parliamentary discussion must be a *local epidemic*."

The report was finally referred to a select committee, to be composed of one member from each delegation representing a medical college or school.

On motion, thanks were voted to the late secretary, Dr. Foster; and his successor, Dr. Bemis, took his seat.

Dr. Hamm, of Pennsylvania, moved a suspension of the rules for the purpose of reconsidering the resolution of Dr. Condie, accepting the apology tendered by Dr. Bryan. The vote upon suspending the rules stood—ayes 111, noes 82. The President ruled that a two-third vote was necessary, and decided the question as lost.

An appeal was taken from the decision of the chair, and the decision was not sustained. A vote was then taken, and the resolution accepting the apology of Dr. Bryan was reconsidered by a vote of—yeas 142, nays 70.

An attempt was then made to connect the resolution with that accepting the apology of Dr. Reese, but it was decided that it would first be necessary to dispose of the resolution reconsidered, and it was laid on the table.

A member from New Jersey hoped that the McClintock case would be brought fairly and squarely before the association, and that gentlemen would be made to "face the music." It was useless to cloak it, or to attempt to dodge the responsibility.

Dr. Beck, of Indiana, moved an indefinite postponement of the whole subject.

Other gentlemen rose to speak, but the President decided that a motion to postpone was not debatable.

Dr. Jewell rose to a point of order, and protested against being "gagged." [The President here reversed his decision.] Dr. Jewell

said that the action of the day previous was regretted, and that gentlemen had acted hastily. Many, who at first sight voted to accept the apologies, now regretted having done so.

Dr. Hamm, of Philadelphia, explained the action of the Philadelphia County Medical Society, and began to read a remonstrance from it, which he desired to incorporate into his speech.

Dr. Biddle objected to the reading of this remonstrance, as a violation of plighted faith.

It was here moved and decided that the association go into "committee of the whole," and *Dr. Edwards*, of Ohio, was called to the chair.

A member hoped there would be no rules of order except what the chair would prescribe.

The Chair. "I will prescribe enough." [Laughter.]

Another member inquired if it would be proper to discuss the remonstrance? *The Chair*.—"A gentleman who has the floor can discuss anything on the face of the earth." [Laughter and applause.]

The remonstrance was then read. It was a long document, giving a detailed account of the recommendation by *Dr. Reese* of *Dr. McClintock* for a position in Blockley Hospital, after the last-named gentleman had been guilty of selling quack nostrums, and had thus committed an offence against the ethics of the profession.

Dr. Humphries, of Indiana, moved that each member of the committee of the whole be restricted to five minutes, allowing *Dr. Reese* whatever time he wished to defend himself in.

Dr. Phelps showed that a ten-minute rule was now in force. *Dr. Cox* moved, as an amendment, to make the time fifteen minutes, which amendment was lost, and the original motion of *Dr. Humphries* was then carried.

Dr. Reese then ascended the platform, and made a statement of his position from the commencement of the controversy. He considered his apology of the day previous a satisfactory one, but was willing to make it more so if it was objected to. He had not brought the subject before the association, but had been given to understand that, if he made the apology which he had made, the remonstrance would not be offered. During his remarks there was a demand for the reading of the apology, which was read, as it is in yesterday's proceedings.

It was moved to refer the apology and remarks of *Dr. Reese* to a special committee of seven, to report to-morrow morning. *Dr. Atlee*, of Lancaster, and other gentlemen urged delay.

Dr. Payne, of Virginia, asked permission to relate an anecdote.

He was reminded of two old Quakers, one of whom kept a store, while the other practised law; both were members of a temperance society, and it was generally thought that the lawyer did not always keep his pledge. One wet cold day, a negro man went to the Quaker's store, and the good man gave him a drink of brandy. This was brought to the notice of the temperance society, and it was decided that the offender should be severely reprimanded. The lawyer was selected to carry out this sentence, and taking the storekeeper into the woods, he thus addressed him: "Jeemes, thee should be more circumspect." [Continued laughter.]

Dr. Condie, of Philadelphia, wished to say that he had offered the resolution in good faith, but he denied that he had made propositions to the gentlemen from New York, or that the Philadelphia committee had.

Dr. Bowling, of Tennessee, said that there was no question of veracity. Gentlemen on either side were correct. He had heard of misunderstanding, and of probable difficulty, and had earnestly endeavored to arrange it. He had told *Dr. Reese* that if he made an apology the remonstrance would not be presented, because he had understood gentlemen from Pennsylvania to say so. But he was now aware that those gentlemen did not in any way pledge the Philadelphia County Medical Society.

Dr. Condie hoped that a committee would be appointed to give the subject a careful consideration.

Dr. Cox, of Maryland, after complimenting *Dr. Reese* as an able practitioner and an experienced editor, whose labors have been of great value to the profession and to the country, said that he did not consider the statement full and satisfactory. The offence was not an unpardonable one, but the violation of that code of ethics which is the life of the profession, should be properly atoned for. [Applause.] The apology was good enough, but it carried as its sting the mental reservation which *Dr. Reese* persists in. *Nay*, in his journal, issued simultaneously with this meeting, and circulated here, he says: "Having done right in certifying to the labors of our quondam friend *McClintock*, we resented the unmerited censures of our Philadelphia brethren." This completely stultifies the effect of the apology.

Dr. La Roche, of Philadelphia, explained his action and that of the Philadelphia County Society in the matter.

Dr. Paine, of Vermont, *Dr. Cox*, and *Dr. Bond* made some rather sharp remarks. *Dr. Davis*, of Massachusetts, thought that *Dr. Reese* had but to admit that he had done wrong, and ask pardon without any mental reservation.

Dr. Reese said that he had intended to make a satisfactory apology. Such was his earnest wish and desire, and he wished to frankly state that he had no mental reservation, neither did he attempt to conceal anything. He made the statement which had been read without reservation and without evasion.

Dr. Condie expressed his entire satisfaction, as did numerous other gentlemen, several crossing to where *Dr. Reese* was sitting and shaking hands with him.

The committee of the whole then rose, and the Chairman reported to the President that the committee had heard and discussed the apology of *Dr. Reese*, and that they considered that it was "ample, full, complete, and satisfactory."

On motion, the report of the committee was received and adopted.

The case of *Dr. Bryan* then came up, when it was suggested that his apology should be in writing; he expressed a willingness to make one as ample as was that of *Dr. Reese*.

Dr. Reese then drafted an apology, but several gentlemen insisted that he should insert the word "regret." *Dr. Reese* declined, stating that no gentleman would apologize for that which he did not regret, and that he would never be dictated to by any gentleman, even if the prison door stood open on his right hand, and the stake was at his left hand.

Dr. Wood stated that he had been with the side which had offered the apology, but he did not consider the apology complete without the insertion of the word "regret."

Drs. Bonner, Clark, of New Jersey, *Hard*, of Illinois, *Parker*, of New York, and other gentlemen, participated in an exciting debate on the necessity of having the word "regret" inserted.

Dr. Reese added the following sentence—"and regrets that he has incurred the displeasure of his brethren." This was not favorably received.

Dr. Boyle, chairman of the committee of arrangements, here announced that arrangements had been made by which delegates who had purchased tickets on their way to the convention over the following roads could return free by exhibiting their cards of membership: Pennsylvania, Wilmington and Manchester, Illinois Central, North-eastern South Carolina, and Richmond and Petersburg.

The apology of *Dr. Reese* was again taken up and discussed with spirit and feeling. At length he presented the following:

"The undersigned regrets that he certified to the professional qualifications for Blockley Hospital, Philadelphia, of an expelled member

of this body, and hereby offers this apology for his departure from the ethical code."

This was received with loud applause, and, on motion of *Dr. White*, accepted as an ample and satisfactory apology.

Dr. Bryan submitted a similar apology, which was also accepted; and then the committee adjourned until Thursday, at nine o'clock, A. M., evidently well pleased that this question was finally disposed of.

Third Day.—The President, *Dr. Lindsley*, called the association to order at half past nine o'clock. The reading of the minutes of the day previous were dispensed with.

Dr. Grant, of New York, asked leave to present a complaint against the New York Medical College, but upon information by *Dr. Edwards*, that a committee on ethics would be recommended by the nominating committee, he withdrew his request.

The minutes were then read. Several proposals to amend them were made, and either ruled out of order or withdrawn.

The appointment during last year of *Dr. Geo. Hayward*, of Boston, as a delegate to represent the American Medical Association in kindred societies in Europe, was announced by *Dr. Eve*.

Dr. Hamilton, from the committee of delegates from medical schools and colleges, to whom was referred the report of the special committee on medical colleges, reported the following preamble and resolution:

Fully appreciating the value and importance of the resolution under which they were appointed, but a majority of the gentlemen constituting this committee not being authorized by the medical faculties of the several colleges with which we are connected, to act as their representatives in this matter, and therefore regarding it quite impossible to secure a convention of delegates in the interim of the meetings of the association therefore,

Resolved, That we recommend to all the medical colleges entitled to a representation in this body, that they appoint delegates, especially instructed to represent them in a meeting to be held at Louisville, on Monday, the day immediately preceding the convention of the American Medical Association for the year 1859, at ten o'clock, at such place as the committee of arrangements shall designate.

The report was accepted, and the preamble and resolution were passed; after which several gentlemen claimed the floor, but the President decided that the reports of special committees were in order, the reports of committees on medical topography and epidemics having previously been referred to the committee on publication without reading.

Dr. J. Foster Jenkins, of New York, read a report on the Spontane-

ous Umbilical Hæmorrhage of the Newly Born, which was read and referred to the committee on publication.

Dr. S. M. Bemis, of Kentucky, read an able and learned report on the "Influence of Marriages of Consanguinity upon Offspring."

Dr. John L. Ailee, from the committee appointed at the annual meeting at Richmond in May, 1852, to procure a stone with a suitable inscription, to be inserted in the Washington monument, made a final report. It stated that Mr. Haldy, a marble mason of the City of Lancaster, Pennsylvania, had in his employment a young man, Mr. J. Augustus Beck, a native of Litiz, Pennsylvania, who had given unmistakable evidence of genius as a sculptor. At the suggestion of the late lamented Dr. A. L. Pierson, of Salem, Massachusetts, (made at the meeting in New York just ten days before his death,) the design of the celebrated painting of Girodet-Tricoson, representing Hippocrates refusing the presents of the Persian king, Artaxerxes, and his invitation to leave Greece, and reside and practice among her enemies, was selected. This was sculptured upon a block of Vermont marble, with the motto, "*Vincet Amor Patriæ*," and the stone is now at the monument grounds. The entire expense was \$1,000, of which one half was paid to the young artist. The amount contributed by members individually was \$501.30; the balance was voted from the treasury of the society. Accompanying the report was a letter from the Secretary of the Washington National Monument Association, and a resolution of thanks to the railroad companies, by whose liberality the stone was brought from Lancaster to Washington, free of charge. The report was accepted, and the resolution was passed.

Dr. Palmer, of Michigan, read a report, made by Dr. E. Andrews, of Chicago, Illinois, on the "functions of different portions of the cerebellum," of which the following is an abbreviated report:

The cerebellum is divisible into three lobes, one median and two lateral.

The muscular system of most animals is divisible into two groups, viz: those which act upon the anterior extremities and the adjacent parts of the trunk, and those which move the posterior extremities and the corresponding portion of the trunk.

The report shows that there is a direct ratio between the strength and bulk of the anterior group of muscles, and the size of the median lobe of the cerebellum.

Also, that the lateral lobes manifest a double ratio, their size being as the strength of the posterior group of muscles, and also as the size of the hemisphere of the cerebrum.

It is inferred that the action of the cerebellum is to *excite* motion, and not merely to *co-ordinate* it; that the influence of the median lobe

is chiefly expended upon the anterior group of muscles, and that the action of the lateral lobes is in some manner double, part of their influence acting upon the posterior group of muscles, and part of it having some relation to mental power, whose exact nature is not yet understood.

The facts and arguments are drawn from comparative anatomy, and illustrated with outline drawings.

Dr. Campbell, of Georgia, read a report on the "nervous concomitants of febrile diseases," which was accepted, and referred to the committee of publication.

Dr. J. Marion Sims, of New York city, read an abstract of his report on the treatment and of the results of obstructed labor, illustrated with a series of magnified illustrations.

Dr. Stephenson, of New York, read an abstract of his report on "the treatment best adapted to each variety of cataract, with the method of operation, place of selection, time, age, &c."

On motion, other reports were called for, read by their titles, and referred to the committee of publication.

Dr. Edwards, from the committee of nomination, offered the following list of committees for the ensuing year, which was accepted, and the committees were chosen:

Special Committee on the Microscope.—Drs. Holsten, of Ohio; Dalton, of New York; Hutchinson, of Indiana; Stout, of California, and Ellis, of Massachusetts.

Special Committee on Medical Jurisprudence.—Drs. Smith, of New York; Hamilton, of Buffalo; Crosby, of New Hampshire; Purple, of New York, and Mulford, of New Jersey.

Committee on Quarantine.—Drs. Harris, of New York; Moriarty, of Massachusetts; La Roche, of Pennsylvania; Wragg, of South Carolina, and Fenner, of New Orleans.

Committee on Surgical Pathology.—Dr. James R. Wood, of New York, chairman.

Committee on Diseases and Mortality of Boarding Schools.—Dr. C. P. Mallengly, of Kentucky, chairman.

Committee on the various Surgical Operations for the relief of Defective Vision.—Dr. Montrose A. Pallen, of St. Louis, chairman.

Committee on Milk Sickness.—Dr. Edward A. Murphy, of Indiana, chairman.

Committee on Medical Ethics.—Drs. John Watson, of New York; Dalton, of Massachusetts; Emerson, of Pennsylvania; Hamilton, of New York, and Gaillard, of South Carolina.

Dr. Edwards also reported, from the committee of nomination, the following resolution:

Resolved, That a committee of nine be appointed by the chair, to wait on the Hon. Howell Cobb, Secretary of the Treasury, and respectfully request the restoration of Dr. M. J. Bailey as inspector of drugs and medicines for the port of New York.

Dr. Edwards urged the adoption of this resolution. He considered the law regulating the inspection of drugs and medicines an important law. Its paternity could be clearly traced to the action of this association in Baltimore. He had urged its adoption at that time; he had taken it from there into Congress, and he had received upwards of nine hundred letters, advising, instructing, and aiding him. He had succeeded, and he felt that in so doing he had performed a great work. In obtaining the passage of the Act, he had been seconded by Dr. Bailey, who had for years been an inspector of drugs, with a view of ascertaining their commercial value, for the custom-house, and had discovered that two thirds of the drugs and medicines imported were adulterated, some of them grossly adulterated. After the passage of the Act, Dr. Bailey was very properly appointed, and had given the most perfect satisfaction to the colleges of pharmacy, to practitioners, and to all concerned.

Yet, after filling the office acceptably, Dr. Bailey had been removed. There was no paper on file against his qualifications, against his fitness, against his ability; but he had been removed upon the recommendation of four New York gentlemen. To show the strength of this recommendation, he would name one of these gentlemen, Isaiah Rynders! [Laughter.] Such was the authority upon which Dr. Bailey was removed.

Now, he did not intend to quietly see a gentleman so eminently qualified as Dr. Bailey is, put one side upon such a recommendation, to give way to a man who is said to be unfit for the place. Doctors Fitch and Chaffee had prepared a bill repealing the law in Congress, for it would be better to have no law than to have it thus administered. He would second them with all his might. The bill was the only public act with which his name was connected, and feeling for it the love of a parent to a child, he would prefer seeing it abolished to seeing it maladministered.

Dr. Tyler, of Georgetown, rose to reply, but gave way to permit Dr. Condie to have some special committees on medical subjects appointed.

Dr. Palmer moved to adopt the appointment of these committees as recommended; which was carried.

Dr. Tyler said that there was no member of the medical profession in the country who felt more indebted than himself to *Dr. Edwards* for his agency in procuring the passage of the law for the inspection of drugs and medicines. It was unnecessary to say a word in regard to the benefit which has resulted from the passage of that law, nor did he wish to be misunderstood in his opposition to the resolution. But when it was proposed to appoint a committee to wait upon the executive officer of government, and dictate to him, he felt that it would be turning aside from the purposes for which this association was organized.

The gentleman who introduced the resolution had said that *Dr. Bailey* would not have turned from his laboratory to elect a President. He commended him for it. But he would not have this association leave its noble sphere of action to approve or to denounce an appointment avowedly made upon political grounds. [Applause.] If the association leaves the field for which it was organized, and in which it has steadily labored for eleven years, he felt confident that it would result in no good; it might result in injury. He had not anticipated this action. He had given the subject no consideration; but it struck him as directly in opposition to the prosperity and the popularity of the association, and he asked gentlemen to pause ere they voted for the resolution.

Dr. Bolton, of Virginia, urged the adoption of the resolution.

Dr. Cox, of Maryland, concurred with *Dr. Tyler* in acknowledging the value of the services of *Dr. Edwards*, and he also concurred with him in objecting to the political, personal, and special character of the resolution which that gentleman had presented. The passage of such a resolution would open the door for unpleasant action hereafter. If a change was recommended at New York, one would be recommended at Boston, at Philadelphia, and at Charleston. That it would be well to disconnect these offices from politics he would admit; and he would consequently offer the following resolution, as a substitute for that of *Dr. Edwards*:

Resolved, That the appointment of inspectors of drugs and medicines in the various ports of the United States should, in the opinion of this association, have regard to the essential, moral, and scientific qualifications of the candidates, and not to considerations of personal favoritism or political bias.

Dr. Edwards trusted that the substitute would not be received by the association. The present occupant of the post at New York was notoriously unqualified for it. He wondered that gentlemen should object to seeing him displaced, to make room for the reinstatement of a

gentleman whose qualifications no one could question. Nor did he think that the Secretary of the Treasury would consider it an interference if the representatives of the medical profession of the whole country made a suggestion to him. Besides, Dr. Bailey is a democrat, and therefore the removal was not a political one. He had reason to believe that, upon a proper suggestion, Dr. Bailey would be restored. If he was not restored, the law would be repealed before the close of the present session.

Dr. Tyler supported the substitute offered by Dr. Cox, as a fair compromise. He believed that the appointment of a committee would transform the association into a political machine. He honored the gentleman from Ohio for the evidences of a warm heart which he had exhibited in endeavoring to procure the restoration of a friend to office, but with him a great principle was at stake. Gentlemen who do not reside in this District may not understand how heads of departments are importuned about offices, and how jealously the motives of all who take part in the appointment or the removal of the office-holders are scanned. He should prefer to see the resolution of Dr. Cox passed.

Dr. Dunbar inquired if it was the duty of a committee of nomination to nominate a candidate for inspector-general of drugs at New York?

Dr. Batchelder, of New York, called for the reading of the original resolution presented by Dr. Edwards.

Dr. Parker, of Virginia, offered other resolutions as a substitute for those offered; which were lost.

The question was then taken on accepting the substitute offered by Dr. Cox; which was lost.

Dr. Wilcox, of Connecticut, offered an amendment to the resolution of Dr. Edwards, "disclaiming all political consideration." The amendment was accepted by Dr. Edwards.

Dr. Bachelder testified to the qualifications of Dr. Bailey, whom he had known from his pupilage.

Dr. Jewell, of Philadelphia, hoped that the resolution would not pass. If it did, he would ask to have a gentleman at Philadelphia removed. Boston members will do the same, and this association will be wholly occupied with offices.

Dr. Wood, of New York, said that he rose from a sense of duty, and frankly confessed that he should vote contrary to his personal predilections, which were in favor of Dr. Bailey. But an endorsement of him would be a bad precedent. If we are to make ourselves judges

of any individual, we must make ourselves judges of all individuals. If we sit in judgment on the gentleman now holding this office, we shall gradually sink into political partisanship, and lose our present high position. He could not consent to sanction the public action of the association, although if a petition was drawn up for the reinstatement of Dr. Bailey, he would be pleased to see it signed by every member present in his individual capacity.

Dr. Rodgers, of New York, said that the subject had not been brought before the association at the recommendation of the delegation from New York, and he moved that it be laid on the table.

The previous question was called and sustained. The motion to lay on the table was defeated—ayes 49, noes 64.

Dr. Sayer, of New York, eulogized Dr. Bailey as eminently fitted for the place, and condemned the present incumbent.

The resolution, as amended, was then carried by a vote of 79 ayes to 52 noes.

Resolved, That a committee of nine be appointed by the chair to wait on the Hon. Howell Cobb, Secretary of the Treasury, and respectfully to request the restoration of Dr. M. J. Bailey, as inspector of drugs and medicines for the port of New York—at the same time disclaiming all political considerations.

Dr. Bohrer, of Georgetown, chairman of the committee on special medical essays, stated that they had not had time to read, much less consider, the papers placed in their hands.

On motion, the committee on special medical essays was instructed to hand such papers as they deemed worthy to the committee on publication.

The President announced as a special committee to wait on the Secretary of the Treasury, Drs. Arnold, of Georgia, Atkins, of Virginia, Buckley, of New York, Hayes, of Pennsylvania, Smith, of New Jersey, McPheeters, of Missouri, Hargraves, of Alabama, Ritcher, of Michigan, and Hooker of New York.

On motion, Dr. Edwards was added to the committee, as chairman. He declined, giving personal reasons as an excuse, but the committee refused to receive it, and he was accordingly chosen.

A gentleman stated that he with several friends had voted for the resolution with the sole intention of moving its reconsideration.

Dr. Grant, of New Jersey, presented a complaint made by the Newark Medical Society against the New York Medical College, for a violation of the ethics of the profession. Dr. Edwards presented a similar complaint, and Dr. Oakley a complaint from the

Union and Essex County medical societies. They were received and referred.

Dr. Sutton, of Kentucky, moved that *Dr. Jarvis*, of Massachusetts, have further time to report on a uniform system of registration of births, marriages, and deaths, and that a committee be appointed to urge upon the census bureau of 1860 the importance of having a physician attached to it to collect vital statistics.

Dr. Kyle, of Ohio, proposed an amendment to the constitution, by which no person can sit as a member or a delegate at meetings of this association who is not a graduate of a recognized medical college. Laid over for one year, under the rules.

Dr. L. A. Smith presented resolutions of the New Jersey Medical Society, praying for such changes of the constitution as would establish a board of census in every judicial circuit of the Supreme Court, who should examine and grant diplomas to all proper members of this association. Laid over for one year, under the rules.

Dr. Humphries, of Indiana, presented a resolution praying for an interchange of transactions of state and county societies, which was adopted.

Dr. Boyle, chairman of the committee of arrangements, presented the names of Professor Swallow, of Missouri, and Professor Mittag, as "members by invitation," and they were elected.

An invitation from *Professor Bache* to visit the Coast Survey bureaux, on Capitol Hill, was read, accepted, and a vote of thanks for the courtesy was passed.

Dr. Gibbs, of South Carolina, moved that Professor Henry be requested to favor the association with his views on meteorology at such time during the session as he may select. Carried unanimously.

Dr. Campbell, of Georgia, moved that the Secretary place on record an expression of the regret with which the society has learned the death of Drs. C. R. Walton, S. W. Granton, Marshall Hall, T. Y. Simmons, Mitchell, and other members deceased since the last annual session. Carried.

On motion of *Dr. Phelps*, the following resolutions were passed unanimously, the members rising:

Resolved, That the thanks of this association are eminently due to the Regents and Professor Henry, of the Smithsonian Institution, for the ample and convenient accommodation afforded for the transaction of business.

Resolved, That the committee of arrangements are entitled to our praise and highest appreciation of their exertions to promote the comfort of the members and the best interests of the association.

Resolved, That to the physicians of Washington and Georgetown, and the faculty of Georgetown College, we accord the homage of our sincerest thanks for their elegant hospitalities extended to the members from abroad, by which the pleasure of their sojourn here has been so greatly enhanced.

Resolved, That we feel assured that the impressions on the tablet of memory received here, in our national metropolis, in this the first year of the second decade of the association, will long remain an evidence of the urbane attentions received not only from the Chief Magistrate and other public functionaries of our glorious Union, but of private citizens and the community at large.

Resolved, That the manifestations of union of heart and purpose in the action of this session inaugurate a new era, and call for devout acknowledgment to Divine Providence, and presage, as we trust, not only a bright future for the association, but also as contributing to the perpetuity and prosperity of our great national confederation.

On motion of *Dr. Anderson*, of New Jersey, it was unanimously resolved that the thanks of the Medical Association be presented to Rev. Dr. McGuire and the faculty of the College of Georgetown for their very cordial reception and entertainment of the association at the College yesterday.

Dr. Arnold, of Georgia, then exhibited specimens of a new method of medical preparations, very interesting to the association.

On motion of *Dr. Foster*, of Tennessee, it was resolved that after 1860 Dr. Hamilton have the privilege of using his report on "deformities after fracture," published in the Transactions, for a work which he proposes to publish.

Dr. Duhamel, of Washington, moved that a committee be appointed to investigate and report upon the "National Hotel disease."

Dr. Foster, of Tennessee, opposed the appointment of such a committee, as did Dr. Boyle, of Washington. Dr. Duhamel withdrew his motion.

Dr. Campbell, of Georgia, was not aware, until he had just heard permission granted to Dr. Hamilton, that he had transgressed in republishing in a work a report which he had contributed to the Transactions of the Association. [Cries of "Regret it," "regret it."] He did regret it, and asked the sanction of the society; which was granted.

The president appointed Drs. Miller, Antisel, and Garnet a committee to wait on the census bureau, as provided by the resolution of Dr. Sutton.

Dr. Dunbar moved a reconsideration of the vote appointing a committee to request the reinstatement of Dr. Bailey, and Dr. Morgan seconded it; but, as Dr. Parker had been invited upon the platform, the motion was ruled out of order.

Dr. Peter Parker, ex-commissioner to China, was then introduced, and was received with applause. He exhibited some curious specimens of *calculi*, as the results of thirty-eight operations upon Chinese. They were of various shapes and composition, and weighed from a few drachms up to three, seven, and eight ounces. His description of the operation by which these calculi were removed was deeply interesting, and it was gratifying to learn that out of the thirty-eight patients all but five or six recovered perfect health.

Dr. Parker proceeded to state that he has treated in China, at the hospital under his charge, fifty-three thousand cases. Pictures of the most curious cases he had brought to this country, and they were on exhibition in the room below. At no very distant period he hopes to place in a permanent form the result of his labors, with illustrations. [Applause.] Among other cases, he had probably performed upwards of a thousand operations for cataract. One day he operated in sixteen cases, the youngest being a mere child, and the oldest an old lady seventy-nine years of age. She came, led by a servant, submitted heroically to operations on both eyes the same day, and in a fortnight had her sight perfectly restored. [Applause.] In acknowledging a vote of thanks, Dr. Parker said he had among his patients all classes, from members of the imperial family down to beggars. His greatest difficulty had been to persuade his patients that he could not cure all diseases.

Dr. Dunbar claimed the floor, and urged the reconsideration of the vote appointing a committee to wait on the Secretary of the Treasury, and solicit the reinstatement of Dr. Bailey.

Dr. Payne, of Virginia, opposed the reconsideration.

Dr. Tyler advocated it, and asked if this association was formed to wait on executive officers, and to dictate to them who they shall remove and who they shall appoint. Many gentlemen around him, he was assured, had voted for the resolution without due reflection, and he trusted with confidence in their sober second thought. The press and the profession, he felt confident, would denounce this association if it entered into the wide field of politics. It was instituted to promote the great cause of science, not to join issue with government.

Dr. Morgan also advocated a reconsideration. He was not a partisan. Although he resides in Washington, he has no personal acquaintance with the President or the Secretary of the Treasury, but he was confident that they would not have made the change without good reason, and it was not the mission of this association to criticise or to attempt to change their views.

Dr. Palmer, after stating how little regard he had for the opinions of the press, inquired as to the present incumbent of the office. Is he capable?

Dr. Watson, of New York, said that *Dr. Bailey* had had his circulars out since his "rotation," and the subject had been twice before the Academy of Medicine, who have ignored it.

Dr. Burns, of Brooklyn, said that he was not a politician, and that he was a personal friend of *Dr. Bailey*, but he hoped that the vote would be reconsidered.

A member from California related his experience there on a question as to the superintendent of a lunatic asylum. In his opinion the less the association had to do with politics, or with expressions of opinion on political appointments, the better.

Dr. McNulty, of New York, said that the question had been twice before the New York Academy of Medicine, and twice been voted down. The present incumbent, whom it is sought to oust, is a German by birth and education. He can read the invoices in whatever European language they may be sent, and he makes his own analyses, which it is reported the ex-inspector did not do.

After some "parliamentary" skirmishing, it was decided to reconsider by a vote of 51 ayes to 32 noes. And on motion, the subject was then indefinitely postponed.

The association then took a recess for two hours.

Evening and Closing Session.—The association was called to order at five o'clock, P. M., by *Dr. Sutton*, one of the vice-presidents, who took the chair.

The amendments to the constitution, proposed at the annual meeting at Nashville, had been made the "special order." They were,

1st. Amend the third article of the constitution, in relation to meetings, by inserting after the words "first Tuesday in May," the words "or the first Tuesday in June;" and also inserting after the words "shall be determined," the words "with the time of meeting." 2d. In article 2, omit the words "medical colleges," and also the words "the faculty of every regular constituted medical college, or chartered school of medicine, shall have the privilege of sending two delegates.

Each amendment was separately discussed, and each was lost by a large vote. An amendment proposed at Philadelphia, in 1856, providing for the establishment of a permanent secretaryship, was lost by a vote of 53 ayes to 84 noes.

On motion of *Dr. Foster*, of Tennessee, the Secretary was directed to collect all the by-laws and have them printed in the next volume.

An attempt was made to introduce a motion endorsing the accoustics and ventilation of the new Capitol extensions, but it was ridiculed by Dr. Sayer, and was withdrawn.

Various additional votes of thanks were passed, and at ten minutes of seven the association adjourned *sine die*.

Obstetric Section of N. Y. Academy of Medicine—Regular Meeting, March 15, 1858. B. FORDYCE BARKER, President; Dr. UNDERHILL, Secretary. Reported by GEO. F. SHRADY, M.D.

Subject for discussion—Version and the use of Forceps in Labor.

Dr. Barker stated that the subject for discussion was the result of a report of Dr. Gardner's case. The point was, to discuss the comparative use of one and the other method of delivery in a simple case where it was optional to use either the one or the other, the head being at the superior strait.

Dr. Gardner then related the following case: The woman was three days in labor, and had suffered from very severe pains. It was her first child. When I saw her, she had taken tart. emetic freely, so as to produce free emesis. It was at six o'clock in the morning; the os uteri was dilated to the diameter of two and a half inches. The question was, what to do in that case; the pains were intense, as forcible as could be desired, and the head did not come down so as to press upon the os. I advised giving her morphine to relieve the pains, and wait for further developments. She took before 12 o'clock, two grains, and from 12 to 4 o'clock, a grain and one half more without producing the slightest sensible effect either upon the os or pains, which continued as severe as before. At 4 o'clock, the question came up as to what was to be done. I recommended attempting to apply the long forceps; the question then was, whether it was not better to open the head—for the result of the pains from morning till night was nothing more than to jam the head down into the pelvis, showing plainly a disproportion between the head and the capacity of the pelvis. In accordance with my advice, the long forceps were used, and applied by the gentleman who had the case in charge; he, however, did not succeed in applying it. The instrument was then handed to me, and with some difficulty I passed them over the head of the child, and bringing down the head two inches; it pressed for the first time upon the os uteri. This os was rigid and firm. Chloroform was then given for the purpose of dilating the os, and then more traction

being made without much difficulty, I was enabled to deliver the child in the course of from twenty minutes to half an hour from the time they were first applied. The indentation upon the frontal bone where it had laid against the promontory of the sacrum, was of spoon-shaped description. The child with some effort lived till 9 o'clock. In connection with this case, said he, Dr. Hubbard inquired why turning was not resorted to, and why it was not as practicable.

Dr. Pond. It is a long time for severe pains to be continued; however, the result in this case proved that the application of the forceps was wise; but the question that would arise in my mind, from the statement in this case, is, whether opening the head would not have been a proper resort.

Dr. Gardner. This was the question that was raised at the time.

Dr. Barker stated that this brought up the grand difference between the Irish and English schools of obstetrics, compared with those of the continent. They do not apply forceps unless the head be in the pelvic cavity, and urgent symptoms show themselves, nor until the head has remained there some six hours, together with symptoms that indicate great suffering on part of the mother. When there is obstruction to delivery at the superior strait, and symptoms arise proving the necessity of resorting to artificial means, they generally choose craniotomy. Continental obstetricians resort to the long forceps when the head is in the superior strait—and in these cases they operate very much sooner than Ramsbotham directs.

Dr. Gardner. The operation of version has been much simplified by the introduction of chloroform, before which there was great difficulty attending the operation, both to the mother and to the physician. The irritation of passing the hand into the vagina in a primipara and the irritation to the uterus, increased the woman's sufferings very materially, and also those of the physician. I don't know that I ever had quite such a good idea of the sufferings of the Inquisition as I did when I had my hands in a uterus attempting to turn. The pressure upon the arm and hand was exquisitely painful, and not unfrequently all power of efficient action is destroyed. It is not until the uterus gets accustomed to this unusual stimulus that you can succeed in grasping and effecting the delivery. These are the two objections that relate to the inconvenience to the mother and physician, now of much less importance than formerly, before chloroform was introduced into obstetric practice. The third objection is principally owing to the injury done the child. I think by reference to statistics, it will be shown that the operation is very fatal.

In the case I cited, I am confident that the child could not be born through the rigid os. I had a case within a few days where a child on account of some deformity of the head, the head passed through in a wedge shape so as not to entirely dilate the os uteri. The effort to pull the shoulders and body through that os was very great. When you come to deliver a child by turning through an undilated os, you will certainly have a dead child, and probably a laceration of the cervex. In general, if the os is fully dilated, the matter is simplified. If the operation is performed for the sake of delivering the child through a pelvis that is contracted in its diameters, you can certainly deliver the feet, probably the body and less certainly the head, which will remain in the superior strait, and if drawn through, it is at the expense of so much effort as to be fatal to the child. The operation that I prefer under these circumstances, is either the forceps, and if I fail in that, resort to craniotomy.

Dr. G. referred in this connection to a case reported by Dr. Finnell, at the last meeting of the New York Pathological Society. A woman was taken in labor, and was under the care of a midwife, who, seeing the cord present, sent after a physician. The physician came to the case and attempted to apply the forceps over the head, and for some reason or other they slipped off. He stated that he had a very sick patient to see in the neighborhood, and he left. Another physician was sent for, who also applied the forceps, and they slipped off. He stated that he had a very bad patient to see in the neighborhood, and he left. A third physician was sent for, who, when he saw the case, thought that it was necessary to turn, and he introduced his hand and brought down one foot. Seeing the case to be a pretty tough one, and he had a patient to see, he left. A fourth physician was sent for; seeing the nature of the case, thought best to send for a fifth, who was a strong muscular man, took hold of the feet and body, gave a pull and left the head behind. The coroner determined what the trouble was. It proved to be a rupture of the uterus from some effort that had been made previously. In this case the head was left behind, as will frequently be the case—the child's life is sacrificed, and great injury done to mother; whereas, if you can deliver by the forceps, it affords great probabilities of life to the child, and if that does not succeed, opening the head relieves the mother from any difficulty.

In answer to a question from Dr. Sewall, he stated that the woman had a convulsion and died within an hour after delivery.

Dr. Pond inquired whether it was possible to introduce the hand when the os is not very well dilated?

Dr. Gardner. The os was two inches across, and the hand could be introduced where the forceps went. This introduction was possible in the morning, but when the head was jammed down, as I have said, the case was somewhat different.

Dr. Hubbard. Dr. Simpson states that the difficulty of turning and the danger to the child-and patient depends much upon the version being done early. The safety of the mother is in favor of turning in distorted pelvis, provided that it is done early. We see, likewise, in hand presentations, that the os uteri is not dilated any further than to admit the arm, but we must turn to deliver, and we generally succeed and deliver without injury to the mother; and generally, I believe—at least I have never found an exception to the case—that the head passed likewise. I cannot see the very great objection to opening the head from below. It seems to me that wherever forceps can be used, the hand can also go.

Dr. White being called upon for an opinion, said that it would depend entirely upon the circumstances of the case; there was no general rule. He never had a case in which there was any doubt as to the course to be pursued; it was either a decided case for either version or forceps. He referred to a case where a woman could not carry her young past the seventh or eighth month; but version being resorted to, the child was born alive, when under other circumstances it would have been fatal to the child. He also referred to another case where the head was so low down that version was impracticable, and it became a nice point to decide between the merits of the forceps or perforator; the latter operation was resorted to.

Dr. Shanks. This subject recalls to my mind a case that occurred some years ago, in which a gentleman present was called at the same time. It was a case of a woman who had been in labor for some twenty-four hours. I examined and found the hand presenting—the other gentleman who was called, came a minute or two after me, and finding the case to be such, we consulted together. He suggested the idea of waiting for spontaneous evolution. I suppose that the case had been long in hand; the waters had evacuated at seven o'clock the night previous. It was then four o'clock, P. M. The hand had presented since five o'clock, A. M. There was a little discharge of lochia, which was very foetid. I rather strongly insisted that an effort, at least, should be made to turn the child. The gentleman very kindly assented. I introduced my hand with very great difficulty, indeed,

and after some time succeeded in getting hold of a foot and brought it down. The operation was effected with safety to the woman, though the child had been dead for some time.

Now this was a case which, it occurred to me at the time, might have been brought to a more favorable issue if a regular physician had been called in the first instance. I believe it was a midwife, however. She had informed the parties that all was right, and the labor would be completed in a short time. I was told by parties present, that she first supposed it to be a head presentation, but by her officiousness converted it into an arm presentation. He thought it was a very interesting case in connection with the subject discussed. Dr. Pond was the physician who attended the case with him.

Dr. Thomas asked if when the head presents at the superior strait, if the body of the uterus be tender to the touch, the uterus fully evacuated and contracted down, whether it was not better to resort to the forceps, as introduction of the hand might cause rupture.

Again, when the head presented, as before—when the body of the uterus was not tender, os uteri not fully dilated, and uterus recently evacuated, whether it would not be much better to resort to turning. He also stated that there was one point mentioned by Dr. Gardner, of which he was not before aware. Dr. Ramsbotham states that through an os of the diameter of three inches a forcep can never with safety be used.

Dr. Barker. This is a mistake; I have proved the contrary more than once.

Dr. Thomas asked if when the uterus has contracted down upon the child, if the use of version was not contra-indicated and forceps preferable?

Dr. Hubbard suggested, under these circumstances, tart. ant. and the warm douche.

Dr. Thomas. It might relax the os, but would the body of the uterus be similarly affected?

Dr. Hubbard. This would depend greatly upon the length of the labor and the condition of the patient generally. The proper time is often allowed to slip by, in order to wait for the opportunity of applying the forceps.

Dr. Gardner. As to rigidity of the os, I don't think much of it any way. Dr. Ramsbotham makes it as a definite rule never to apply force where the os is rigid, because he thinks there will be laceration instead of dilatation. I should not stand for this objection—it is a thing that very frequently occurs; it is frequently observed by those

who are accustomed to make speculum examinations. In two cases I have made long incisions in the os. I had one case where there was no obstruction except in rigidity of the os. For three days she had strong pains, and I relieved her by cutting it; it cut like cartilage. I think it is decidedly better to divide it than to have it tear.

Dr. Barker. I suppose every obstetrician has certain rules that he would adopt in every contingency. There are a class of cases in which the recourse to either one or the other mode is optional—either version, the forceps, or craniotomy. It was to that class which I supposed the discussion this evening principally confined. I have been disposed to adopt the continental mode of practice, the use of the forceps wherever it can be used. When the head is at the superior strait, and there is no disproportion between the size of the head and of the pelvic cavity, I believe in the use of the long forceps. I have delivered from the superior strait with the long forceps five times. In these five cases four of the children have been delivered alive; one died eight hours after delivery. The patient was a primipara, short and stout. The antero-posterior diameter of the superior strait in this case was a little over $3\frac{1}{4}$ inches. I make it a rule in practice to apply the long forceps, if immediate delivery is indicated, whenever they can be used. It is an operation producing less shock to the mother, and affords greater chance to the child than version. There is a class of cases, however, where it is not possible to use the forceps, but where version can be resorted to. I have delivered three cases of this kind, resorting to turning instead of craniotomy. Dr. Barker then related the following case of forceps delivery in the case of a primipara. She had an active circulation, had a full muscular development, and was a patient of a great deal of nervous irritability. She had come from St. Louis, and had been told by a physician in that place that she must not take chloroform, inasmuch as she had a disease of the heart, and it would kill her. Dr. Harris, who was in attendance, said that she had been in labor 22 or 23 hours before the cervix dilated. The pain in the meantime was so very active that the woman was almost exhausted. After 22 or 23 hours of severe labor pains, the cervix relaxed with great rapidity. I found, on examination, that the head was movable above the pelvic cavity. Each pain was attended with a very great degree of nervous excitement; her face became turgid and swollen, and she lost all her self-control. We were met with the objection that she could not take chloroform. We answered to that by saying that her present danger was infinitely

greater, and, without stopping to ask permission, we immediately commenced the administration of chloroform.

Then the question as to the mode of delivery came up. I said to Dr. Harris, my rule is to use the forceps if possible. They can be tried without any great loss of time or danger to the mother. I could then discover no signs of foetal heat, though the sounds had been heard two hours previously by Dr. Harris. Having made my examination, I was satisfied that there was a slight degree of contraction in the antero-posterior diameter of brim. I applied the forceps with some difficulty, and delivered the child. The child was still-born, but was compelled to breathe upon resorting to Marshall Hall's ready method. The mother had a pretty smart metro-peritoneal attack, which caused considerable anxiety at the time.

In three cases I have resorted to version according to Prof. Simpson's plan, when the head was at the superior strait; of these three cases, two of the children are living. If it will not occupy too much time I will mention them.

The first case occurred nearly five years ago. I was called by Dr. Robson to see a patient with him in 23d Street, but I being not at home at the time, he sent for Dr. Johnston. It was to a lady 22 years of age; it being her first child, the case was one of great anxiety, as the child would fall heir to a large estate. As soon as I came home I went there. The patient was in active, strong labor, which she bore well for some hours, but by the time that I saw her she was extremely irritable, and a vaginal examination gave rise to immense suffering. Her pulse was good. Dr. Johnston urged waiting. I urged chloroform, in order to give a thorough examination. After waiting, however, for three or four hours, the irritability became so great that he consented to the administration of chloroform. The cervix was well dilated; the vagina at first examination was hot and dry, but after the administration of the chloroform it became relaxed, and there was less heat about it. I have noticed this fact often, even when the body of the uterus was tender and the waters were evacuated for hours, it apparently disappears, the parts become moist, so that delivery by version can be resorted to.

We then found the head at the superior strait not engaged at all in the pelvic cavity, but it was indented by severity of the uterine contractions. Dr. Johnston made an examination, and thought that it was impossible for the head to enter the pelvis without the use of the perforator. I then suggested to him Dr. Simpson's plan, and gave a pretty full detail of the arguments in its favor. I told him that I

thought it possible that a delivery might be effected. Dr. Johnston was willing, though he thought it very doubtful, and so did I. I introduced my arm, seized the sub-pubic knee, and accomplished version without any difficulty. I then proceed to extraction. The extraction of the trunk was easy until I came to the delivery of the shoulders. I had to extract one at a time, and with great difficulty. Next we came to the head, which had to be rotated, Dr. J. assisting from without; at last, after much difficulty, we brought the longitudinal diameter of the head to correspond with the transverse diameter of the brim. In producing traction we experienced so much difficulty that we were about giving it up, but I urged another trial, which resulted in getting the head into the cavity of the pelvis, and the child was then delivered with ease. The child was still-born, but it was resuscitated, and is still alive. Two years subsequently the patient again fell in labor, but the head was a great deal smaller, and delivery by forceps was resorted to.

The second case was one occurring in the practice of Dr. Lafayette Ranney. Patient *æt.* 20, short, stout and very muscular. She was in labor some twenty-two hours, and when Dr. R. sent for me it was with a message to bring my instruments. The head was at the superior strait, and the woman was suffering very violent pains. I attempted to deliver by the forceps, and failed. I could not make the head enter the pelvis. I then proposed Simpson's plan; I turned and succeeded in getting the head into the cavity of the pelvis partially. I then had to try the forceps. The child was delivered still-born; all efforts at resuscitation failed.

The third case was in a lady from Herkimer County, 38 years of age. Having lost five children in labor, she was extremely anxious to have a living child. She placed herself under my care. Judging from external appearances, you would have supposed that she had a large pelvic capacity, but on careful examination I found there was a diminution in the antero-post diameter of the brim.

I was aware of the circumstances of the case, and I thought of it considerably. I thought it possible to deliver by the long forceps. When she was in labor, and as soon as the os was fully dilated, I made use of the forceps, but without success. I then introduced my hand and turned. To my great surprise the child was born alive. The next day I called to see her, and she did not show any signs of the shock whatever. The child weighed $10\frac{1}{2}$ pounds.

